

EPHP 2012

Conference Book



About EPHP

The National Conference on Bringing Evidence into Public Health Policy (EPHP) is a biennial national conference held in Bangalore. The first EPHP was held in December 2010. EPHP seeks to provide a common platform for researchers, policymakers and healthcare providers to share evidence from empirical studies. The aim of EPHP is to critically evaluate the evidence and facilitate discussions on uptake of this evidence into policy. The ultimate goal of EPHP is to enable positive change in policy and health service delivery towards equity and quality healthcare for India.

The EPHP conference is emerging as a favoured platform for researchers, academia, policymakers and healthcare providers. In 2010, 'five years of National Rural Health Mission' was the theme. The 2012 conference is focusing on strengthening health systems to achieve Universal Health Coverage (UHC).

The papers and presentations at EPHP are available online. All abstracts are published in the open-access, PubMed indexed journal *BMC Proceedings*.

See www.ephp.in for further details.

Acknowledgement :

We would take this opportunity to thank all IPH team members for their support. In addition to the following committee members, we would like to express our gratitude to Dr. T Sundararaman (Executive Director, National Health Systems Resource Centre, New Delhi), Dr. Mohanraju (Executive Director, Karnataka Health Systems Resource Centre, Bangalore), and Prof. Bruno Gryseels (Director, Institute of Tropical Medicine, Antwerp) for their support in organisation of EPHP 2012. We would also like to thank Prof. Bart Criel, Dr. Vidya Patil, Mr. Tushar Mokashi, Dr. Raveesha MR, Dr. Devaji Patil, Mr. Vasudev Devadasan, and Ms. Andrea Zavala for extending their help for this conference.

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2nd National Conference on Bringing
Evidence into Public Health Policy

EPHP 2012

5th - 6th October 2012

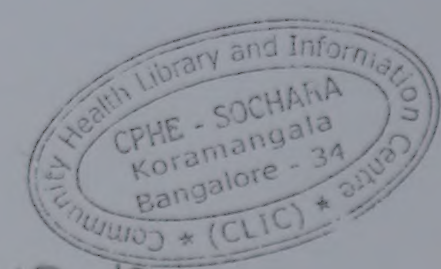
Hotel Royal Orchid, Bengaluru, India



2nd National Conference on Drugs
Evidence into Public Health Policy

EPHP 2013

2 - 8 October 2013
Hotel Royal Orchid, Bangalore, India



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ARVIND LIMBAVALI
Minister for Health and Family Welfare

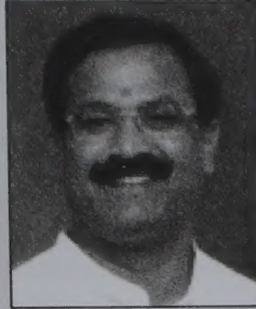


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MESSAGE

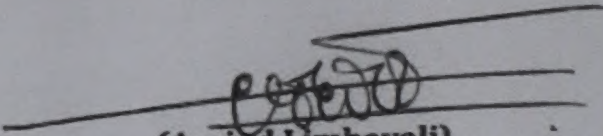
I am pleased to note that the Second National Conference on Bringing Evidence into Public Health Policy is focusing on strengthening health systems to achieve universal health coverage in India. I am also pleased to know that the conference is happening in Bangalore.

The Karnataka Government is committed to move towards ensuring universal health coverage for all our people, especially the poor and needy who suffer from the difficulties of paying for healthcare. Karnataka already has made some progress through several schemes such as Rashtriya Swasthya Bheema Yojana which covers hospitalisation costs, Yashaswini that covers cost of surgeries and Vajpayee Arogyashree that covers cost of tertiary care. However, we still have to work harder to provide universal health coverage to all our people.

I hope that the gathering of International and Indian researchers, government officials and others at EPHP 2012 will help us move closer to achieving universal health coverage in Karnataka and rest of the country.

I wish the conference a grand success.

With regards,


(Arvind Limbavali)

To,
Dr. D.N.Devadasan, MBBS, MPH, Phd
Director, Institute of Public Health,
Bangalore.

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I am happy to extend my greetings to the Second National Conference on bringing Evidence into Public Health Policy, being organised by the Institute of Public Health, Bengaluru, in collaboration with a number of leading organisations- national and international. For National Health Systems Resource Centre, a boundary organisation working at the interface of knowledge generation and knowledge uptake, the opportunity to be a participant and a co-organiser for EPHP is a richly rewarding and learning experience.

Health systems are complex adaptive systems and constant feedback and learning is important for their efficient functioning and effectiveness. The generation of knowledge or evidence that supports decision making becomes therefore central to the enterprise.

Evidence is only one consideration amongst the many that go into decision making, but an important one. In a democratic society, what constitutes evidence, the reliability of such evidence, the strength of the recommendations based upon evidence, and the relationship of evidence to outcomes, all these become matters of dialogue, even contestation. If this is so in the choice of technologies, it is even more obvious for health systems, where, very often, the choices are ideological and political. It is therefore necessary to bring evidence and perceptions from different vantage points on the policy-implementation chain. This requires us to bring in views of different schools and disciplines that inform public health into a single platform, where in a collegial spirit, community of public health practitioners and academicians could share their work and learn from each other. Though there are many other platforms in academic public health, few other conferences in recent times have been able to engage successfully with the practical problems of implementation, without reducing the importance of theoretical understandings.

A carefully drafted programme of this conference has risen to this challenge and deals with some of the major contemporary challenges in strengthening public health systems. This is only the second conference, but the response has been overwhelming. It is important for the organisers to consolidate the interest and enthusiasm this conference has created, and sustain this effort in the years ahead. I wish the conference all the best.

Dr. T Sundararaman
Executive Director.
National Health systems Resource Centre,
New Delhi



The Institute of Tropical Medicine at Antwerp has been a champion of universal Primary Health Care since before the Alma Ata conference on *Health for All*. Together with many partners, it has reiterated that commitment in the *Health Care for All* conference and declaration (<http://www.itg.be/hca/DEC16-11EN.pdf>), which took place in Antwerp in 2001 under the auspices of the Belgian EU presidency. Apart from a political and scientific update, this gathering anticipated on the expected impact of the fledgling Global Fund on health systems in developing countries. Over the past decade, this question has become ever more relevant, and the North-South differences on it ever more apparent. A consensus is finally growing that the investments and achievements of the past decade cannot be consolidated or extended without strong, sustainable and responsive national health systems. This predictable and unavoidable turnaround is now refined in a renewed drive towards *Universal Health Coverage* (UHC), or *Health Care for All* (HCA). This concept is indeed fundamentally and operationally different from the "health systems in order to achieve the Millennium Development Goals" of a few years back. Rather than seeing health systems as a tool for reducing global disease burdens, it recognises comprehensive health care as a basic and individual human right. While MDG 4, 5 and 6 have served to mobilise, but also narrow, international aid, they remain conceptually and ethically inconsistent e.g. with MDG 2 on *Universal Primary Education*. Their replacement by a post-2015 MDG on *Universal Primary Health Care* (UHC, HCA,...) is on the table of current global health debates and finds a staunch supporter in the ITM and the Belgian government. We need to convince special interest groups, however, that such a comprehensive goal gives sufficient but appropriate place to targeted disease control.

Assuring comprehensive health care is morally, politically and legally the duty of the state, based on mechanisms of financial and social solidarity. The international community has similar duties to assist countries that fall short of resources (state failures being another and more difficult subject). Health inequities are increasingly apparent within rather than between countries, particularly in emerging economies such as India. Resources, technology and expertise are available but fail to reach poor populations and individuals. How to address this disparity is a formidable national challenge, ethically, politically and economically. The responsibility befalls primarily to the authorities and the civil society of the country, with public health authorities, professionals and scientists as key actors. Many determinants, implications and repercussions have global ramifications, however, and international cooperation remains a necessity, regardless of and beyond any aid agenda.

India has taken important conceptual and political steps towards universal health coverage, starting with the revolutionary *National Rural Health Mission* launched in 2005, still to be complemented by a *National Urban Health Mission*. The challenge to turn programme-based policies, organisations and cultures to a person- and population-centred one can be nothing less than awesome, at all levels and in all quarters. Sustained political commitment and ensuing reforms are an overriding prerequisite to bring about the necessary changes. The technical challenge of 'doing the right thing', and to respond to the peoples' needs and aspirations, is at least as great. Moreover, tangible successes on the short and long term are essential to maintain political and public support, and withstand the forces that regard health care as a commercial commodity rather than a public duty. Policies and strategies must therefore be based on solid evidence, encompassing not only medical, technical and financial choices but also much less quantifiable sociological, anthropological and organisational intricacies.

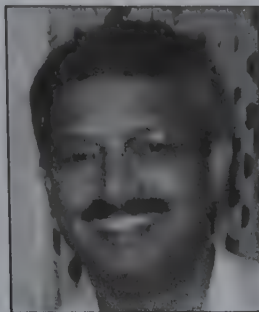
Scientific and academic public health institutes have therefore an essential task and a major responsibility in the road map towards *Universal Health Coverage*. While keeping universal human rights and values as axiom, they must analyse and address enormous complexities with scientific rigour and interdisciplinary expertise. Apart from operational challenges, they should not shy away from basic research questions on the biomedical, socio-anthropological and organisational knowledge gaps that are usually at the basis of societal problems. Research results must be scrutinised by internal quality systems and peer-reviewed publication, before being translated in policies and practices. These need to be tested and adjusted according to the highest scientific and ethical standards before implementation. During and after rollout, public health scientists assure objective monitoring and evaluation of processes as well as outcome and impact of changes or interventions. Not least, public health institutes must transmit their knowledge to new generations of evidence- and science-conscious public health professionals through post-graduate and continued training. Indeed, only an intelligent, knowledgeable and critical work force will be able to lead and implement the necessary changes to reach universal health coverage in India, and elsewhere. Much is thus asked from scientific public health institutes and their staff, which must be equally strong in top science as in daily practice, in local communities as in international networks, in medical sciences as in managerial prowess.

This conference, the second in a hopefully long series, signals the firm willingness of academics, professionals and authorities in India to think and work together on this road to *Health Care for All*. It is a privilege for the ITM and the Belgian Directorate-General for Development (DGD) to be involved in this exciting and promising endeavour of the Bangalore Institute of Public Health, together with local, regional and national authorities, NGO's and civil society, other academia and many individuals. Our contribution to the development of the IPH is modest, and focusses on training, coaching and international exchanges with like-minded institutes in Asia, Africa and Latin America. Dr. Devadasan and his team take their own matters and destiny firmly and capably in own hands. I am sure they will quickly become one of the major voices in the public health arena in India and beyond - as far as they not already are. In like manner, I wish to congratulate them with the impressive scientific and logistic level of this 2nd National Conference on *bringing Evidence into Public Health Policy* (EPHP 2012). To be sure, we at ITM and other network partners learn as much if not more from IPH Bangalore than vice-versa, not least at this conference to the proceedings and conclusions of which I look very much forward.

The mutual benefit is not limited to sciences and public health, however. The collaboration between IPH and ITM is, at the institutional as well as the individual level, also exciting, rewarding and pleasant in giving shape to a truly equal international co-operation 'beyond aid'. Indeed, nowhere in the world is the North-South dichotomy of the past more futile than here in Bangalore, where Thomas Friedman discovered the flatness of the earth. Therefore, and for many other reasons not least amicable ones, I look very much forward to our future collaboration with the Institute of Public Health and its contribution to the achievement of *Universal Health Coverage* in India and elsewhere.

Prof. Bruno Gryseels

Director,
Institute of Tropical Medicine



Dear EPHP 2012 participant,

This second edition of the EPHP tackles an important issue of Universal Health Coverage (UHC). This is all the more important in our country, where the health services are very fragmented and people pay significant amounts through direct out-of-pocket payments to access health care. The Planning Commission has initiated the move towards UHC by commissioning the High Level Expert Group Report (HLEG). However, much more has to be done if our country needs to achieve UHC by 2020. I hope that this conference is a first step towards shedding light on what is UHC, where we are in the march towards UHC and finally what we need to do to achieve UHC in the given time frame.

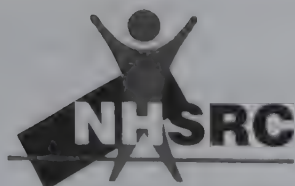
One obvious move to achieve UHC is to strengthen the health system. Unfortunately, there is very little understanding of what is a health system and what we need to do to strengthen it. This is one of the reasons why the EPHP is thematically divided into the building blocks of a health system; human resources, health finances; health services; governance; and the role of the community. Our country needs to focus on these rather than on individual disease control programmes if we are to achieve UHC. It is imperative that our health officers at every level understand this. IPH will be contributing towards this by launching a MPH course on health systems from June 2013 onwards.

We are grateful to have important partners like the Institute of Tropical Medicine, Belgium; the National Health Systems Resource Centre, New Delhi and the Karnataka Health Systems Resource Centre, Bangalore who share our vision of UHC with equity and quality. This conference would not have been possible without their inputs and support.

Yours sincerely,



(N. Devadasan)



2nd National Conference on Bringing Evidence into Public Health Policy (EHPH 2012)

5th - 6th October 2012, Hotel Royal Orchid, Bengaluru, India

CONFERENCE PROGRAMME

Day/Date/Time	Session Title (tentative)	Speaker/ Presenter/ Chair
Day-1 : Friday 5-10-2012	Inaugural Session	
8-00 to 9-30	Registration	
9-30 to 11.00	Inaugural Session	
9-30 to 9-35	Welcome Address	N. Devadasan Director, IPH, Bangalore
	<p><u><i>Brief bio of speaker</i></u></p> <p>Dr. N. Devadasan is a medical graduate from CMC Vellore, India. After graduation, he and his wife worked for 10 years with adivasis in Nilgiris District of Tamil Nadu. Here they helped the adivasi community set up a health system that was accessible, affordable, and acceptable. While working here, he developed a community health insurance programme so that the adivasi community could access health care without any financial burden. The main objective of the health programme was to empower the adivasi community (one of the poorest in the country) so that they have choices vis-à-vis their health care. Subsequently, Dr Devadasan joined the WHO at Delhi. He was in charge of the communicable disease cluster and is one of the authors of the Integrated Disease Surveillance Programme that is being implemented in India today.</p> <p>In 2005, he co-founded the Institute for Public Health. He is currently involved in research projects on governance, social exclusion in health care and district health management. He has authored several articles in peer-reviewed journals and nine books on public health issues.</p>	
9-35 to 9-45	Address by Co-organisier National Health Systems Resource Centre, and release of a special supplement of BMC Proceedings on EPHP	T. Sundararaman Executive Director, NHSRC, New Delhi

Brief bio of speaker

T. Sundararaman is the Executive Director of National Health Systems Resource Centre in New Delhi, a position he has held since May 2007, and is also a Member Secretary of the Sector Innovation Council for the Health Sector. From 2002-07, he was Director of State Health Resource Center in Chhattisgarh, where he provided technical guidance to launch a major community health worker program and strengthened its public health system. From 1999-02, he was a Professor of Internal Medicine at Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER) in Pondicherry. Dr. Sundararaman has written over fifty books, mainly on health issues, in both popular communication and public health texts. He has also written a number of articles that have been published in peer-reviewed journals. He earned his MBBS and MD in Internal Medicine from JIPMER.

9-45 to 9-55	Address by Co-organiser Institute of Tropical Medicine, Antwerp, Belgium and launch of e-learning and MPH course at IPH	Bruno Gryseels Director, Institute of Tropical Medicine Antwerp, Belgium
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Brief bio of speaker

Bruno Gryseels is Director of the Institute of Tropical Medicine, Antwerp, Belgium, co-organiser of EPHP 2012. He has worked extensively in several low- and middle-income countries in Africa and Latin America. He has advised several international organisations and countries on disease-control strategies. As the Director of ITM, he launched the 'Health Care for All' initiative in 2001. He also initiated the 'Switching the Poles' capacity-building programme which, with support from the Belgian Directorate-General for Development, currently focuses on building individual and institutional capacity among several partners of ITM in Africa, South America and Asia.

9.55 - 10:05	Address by WHO representative	Poonam Khetrapal Singh Deputy Regional Director World Health Organization, South East Asia Regional Office
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Brief bio of speaker

Dr. Poonam Khetrapal Singh is the WHO Deputy Regional Director for South-East Asia. She is the Principal Adviser to the Regional Director on all matters related to WHO Regional Policies, Management and Strategies. Dr Poonam Singh has overall responsibility for the Departments of Sustainable Development & Healthy Environment, Communicable Diseases, Family Health & Research, Health Systems Development and Noncommunicable Diseases & Social Determinants of Health. In addition, she oversees/supervises coordination of all Regional financial and human resource issues in this regard, as well as activities related to Public Information and Advocacy.

Dr. Poonam Singh began her career with WHO as the Executive Director, Sustainable Development and Healthy Environments at WHO Headquarters in Geneva, in June 1998. She was part of the Director-General's Cabinet.

Prior to joining WHO, Dr. Poonam Singh was a career member of the Indian Administrative Service since 1975. In that capacity she held several important portfolios with the Government of Punjab, including Secretary, Health, Family Welfare and Medical Education; Chairperson, Health Systems Development Corporation; Secretary, Finance (Budget and Accounts); Secretary, Personnel and General Administration; and Managing Director, Punjab Financial Corporation. She also worked as a Specialist in Population, Health and Nutrition in the World Bank. Dr. Poonam Khetrapal Singh has a Ph.D. in Public Health and is a Fellow of the Royal College of Physicians, Edinburgh.

10-05 to 10-20	Address by the Karnataka Health Secretary	M. Madan Gopal Hon'ble Secretary, Health & Family Welfare, Government of Karnataka
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Brief bio of speaker

Madan Gopal M is a native of Hyderabad, Andhra Pradesh. He did his graduation in Commerce and Accountancy, Diploma in Journalism and Post-Graduation in Management and Cost Accountancy. He joined Indian Administrative Service in 1984 and started his career as Asst Commissioner of Land Development Management and District Administration. He has worked in various capacities at district and state levels across Karnataka and at present as the Principal Secretary, Health & Family Welfare Department since 27th August 2012.

He has undergone various trainings on a variety of administrative and technical topics in reputed institutions in India and abroad. He has conducted studies in field of Education and Rural Development at Germany, Tanzania, Ethiopia and South Korea.

10-20 to 10-35	Keynote address	P.K. Pradhan Hon'ble Secretary, Health and Family Welfare, Government of India
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Brief bio of speaker

P.K. Pradhan, Honorable Health Secretary of India, is an IAS Officer. In his career spanning more than thirty four years, Mr. Pradhan has handled various portfolios, both at State and Central level.

10-35 to 10-55	Ceremonial lighting of lamp and Inaugural address Release of UHC Manual	Aravind Limbavali Hon'ble Minister, Health & Family Welfare, Government of Karnataka
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Brief bio of speaker

Hon'ble Aravind Limbavali is the Minister of health and family welfare in the government of Karnataka.

10-55 to 11.00	Vote of thanks	M.R. Mohanraju Executive Director, Karnataka Health Systems Research Centre, Bengaluru
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Brief bio of speaker

M.R. Mohanraju is the Executive Director of the Karnataka Health Systems Resource Centre.

11-00 to 11.20	Tea / Coffee Break	
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11-20 to 13-30	Plenary Session Universal Health Coverage (UHC) in India: Dream or Reality (springs hall)	Chaired by K. Sujatha Rao Former Secretary, Ministry of Health and Family Welfare (MoHFW), Government of India (GoI)
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Brief bio of speaker

Ms. Sujatha Rao joined the Indian Administrative Service in 1974. She has been associated with the health sector since 1988 when she was deputed to the Ministry of Health and Family Welfare, Government of India as Director and later as Joint Secretary. She worked as Secretary, Family Welfare in the southern state of Andhra Pradesh. In 2004 Ms. Rao was nominated by the Indian Government as Member Secretary of the National Commission on Macroeconomics and health which was co-chaired by Union Ministers' of Health and Finance.

As Director General of the National AIDS Control Organization (NACO) from 2006-2009, Ms. Rao was instrumental in establishing systems and building up NACO as a full fledged professional body with a capacity to implement programs with a five fold increase in budget outlay (from a \$500 million program to a \$2.5 billion program). In 2009, Ms. Rao was appointed as the Union Secretary, Ministry of Health and Family Welfare, Government of India. In 2009-2010, Ms. Rao was involved in all aspects (regulatory and development) of the health sector - the national program for non communicable diseases was launched; regulations for the Organ Transplant, Clinical Establishment, Medical Education, Drugs and Medical Devices enacted; the processes for a national policy for the rational use of antibiotics and for introduction of vaccines in public health initiated; the primary health care system revitalized with concepts of differential planning, perform based financing, revising standards and benchmarks for health facilities, and linking of outcomes to financial planning and resource allocation etc. The largest household survey covering over 35 million persons was launched. Ms. Rao was also responsible for establishing a separate Directorate for CGHS (health insurance programme for all central government employees). She retired from government service in December 2010.

Ms Rao has served in senior technical capacities on several international networks and groups including those of WHO, Global Fund and Population Council. She has represented India on the Boards of the WHO, Global Fund and UNAIDS. Ms Rao did her post-graduation from Delhi University and has a Master's Degree in Public Administration from Harvard University, USA in 1991-92. She was also a Takemi Fellow at the Harvard School of Public Health during 2001-2002. She was invited by the Harvard School of Public Health as the first Gro Harlem Brundtland Senior Leadership Fellow. Ms Rao has published several papers and articles on health and public policy matters. She was a co-author of 'India Health Report' published by Oxford University Press in 2003.

11-20 to 11-50	Overview of UHC and how others have achieved it	Anne Mills Vice-Director & Professor, London School of Hygiene & Tropical Medicine, London
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Brief bio of speaker

Anne Mills, Professor of Economics and Policy and Vice Director, Academic Affairs at the London School of Hygiene and Tropical Medicine, UK has kindly agreed to give the keynote address in EPHP. Anne Mills has extensively worked on issues concerned with the financing and organisation of health care in low- and middle-income countries (LMIC) including China, India and Thailand. She has also worked in sub-Saharan Africa as part of the Ministry for Health in Malawi. Her main research interests are issues concerning the financing and organisation of health care in LMIC. She will be presenting an overview of Universal Health Coverage (UHC) and her experiences of achieving UHC in other LMICs.

11-50 to 12-05	UHC in India as seen by the High Level Expert Group (HLEG)	Gita Sen Professor (Public policy), Indian Institute of Management Bengaluru
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Brief bio of speaker

Gita Sen is Professor of Public Policy at the Indian Institute of Management in Bangalore (IIMB). Her recent work includes research and policy advocacy on the gender dimensions of population policies, and the equity dimensions of health. She coordinated the Knowledge Network on Women and Gender Equity for the WHO Commission on Social Determinants of Health. She is a member of the Mission Steering Group for the National Rural Health Mission; of the High Level Expert Group on Universal Health Coverage; and of the Governing Board, of the National Health Systems Resource Centre. She is the author and editor of a number of articles and books including Gender Equity in Health: the Shifting Frontiers of Evidence and Action (Routledge, 2010); and Engendering International Health: The Challenge of Equity (MIT Press, 2002).

12-05 to 12-20	Status of UHC in India	N. Devadasan Director, Institute of Public Health Bengaluru
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Brief bio of speaker

N. Devadasan (see bio in Earlier Session)

12-20 to 12-35	UHC in India: Views of the representative of the State Government	Girija Vaidyanathan Government of Tamil Nadu
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12-35 to 12-50	UHC in India: Views of civil society	Amit Sengupta Associate Coordinator People's Health Movement India Chapter
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Brief bio of speaker

Amit Sengupta is a health activist with People's Health Movement-India and the editor of the Global Health Watch Report 2005.

12-50 to 13-30	Discussion and remarks by Chair	K. Sujatha Rao Former Secretary, Ministry of Health and Family Welfare (MoHFW), Government of India (Gol)
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Brief bio of speaker

K. Sujatha Rao (see bio in Earlier Session)

13-30 to 14-15	Lunch Break
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14-15 to 16-00	Parallel Session A Financing Universal Health Care (UHC) (springs hall)	Chaired by Bart Criel Head (Health policy & financing) Institute of Tropical Medicine, Antwerp, Belgium
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Brief bio of speaker

Bart Criel joined the Antwerp Institute of Tropical Medicine (ITM) in 1990. Today, he is Senior Lecturer at the ITM Health Financing Unit, Department of Public Health. His main areas of work are the study of healthcare delivery systems and of social protection in health in low-and middle-income countries. He is involved in coaching a number of action-research projects in the field of healthcare delivery at district level in Benin and the DR of Congo. He is also responsible for streamlining the institutional co-operation ITM has developed with sister academic institutions in the DR of Congo (School of Public Health, Lubumbashi), India (Institute of Public Health, Bangalore) and Uganda (Makerere University School of Public Health, Kampala). His research activities are mainly situated in two areas - planning, organization and management of healthcare delivery systems at district level and study of arrangements for social protection in health. He is a member of the network organization Medicus Mundi International that groups a dozen of NGOs specialized in primary health care.

14-15 to 14-30	Keynote address: Important financial issues in achieving UHC	Sunil Nandraj Visiting Faculty, Institute of Public Health, Bengaluru
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Brief bio of speaker

Sunil Nandraj is with WHO-SEARO and is currently on sabbatical. He has over 23 years of experience in the health sector, with civil society, government and with WHO. He was working for the past 11 years as Cluster Head, Health Systems Development in the Country Office and as a Technical Officer-National Health Planning and Health Financing in the South East Asia Regional Office, World Health Organisation. Prior to joining WHO, he worked with the Centre for Enquiry into Health & Allied Themes and Foundation for Research in Community Health and Indian Council for Medical Research, Mumbai, as a health researcher for 13 years conducting research and advocacy at various levels. He has served as technical expert in various national committees and international conferences on issues of health system development. He has published more than 50 research reports and publications in international and national journals.

14-30 to 14-40	Impact of <i>Rashtriya Swasthya Bima Yojana (RSBY)</i> on enrolled households: Lessons from Gujarat	Tanya Seshadri Institute of Public Health, Bengaluru
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Brief bio of speaker

Tanya Seshadri is faculty at Institute of Public Health, Bangalore. Her areas of work include primary health care and hospital management. She is currently working within the multi-partner research project 'Financing health care for inclusion' (Health Inc) in India and West Africa, financed by the European Commission. She has mentored participants of training programmes in district health management and has been a Junior Consultant at the Community Health Department, Christian Institute of Health Sciences & Research, Dimapur, Nagaland for 13 months. She is a medical doctor with a post-graduation in community medicine from CMC, Vellore.

14-40 to 14-50	Differential financing for public health facilities	Nehal Jain Centre for Budget and Policy Studies, Bengaluru
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Brief bio of speaker

Nehal Jain is health policy analyst at Centre for Budget and Policy Studies, Bangalore.

14-50 to 15-00	Health system strengthening and the importance of public investment: A study of National Rural Health Mission (NRHM) in Bihar	Indranil Mukhopadhyay Public Health Foundation of India, New Delhi
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Brief bio of speaker

Indranil Mukhopadhyay is a PhD from Centre of Social Medicine & Community Health, Jawaharlal Nehru University, New Delhi. He is currently working as a Senior Research Associate at the Health Economics and Finance Unit of Public Health Foundation of India, New Delhi. Prior to that Dr. Indranil worked as a researcher with organisations like Save the Children, People's Health Movement, Centre for Budget and Governance Accountability. His PhD thesis was on "Public Health Care Expenditure in India, a study of Kerala, Tamil Nadu and West Bengal". Indranil also teaches Health Economics at the Indian Institute of Public Health, New Delhi.

15-00 to 15-10	Challenges in attaining UHC: Empirical findings from RSBY in Chhattisgarh	Sulakshana Nandi Public Health Resource Network, New Delhi
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Brief bio of speaker

Sulakshana Nandi is the State Convener of Public Health Resource Network (PHRN) in Chhattisgarh. She has a Masters degree in Social Work and has done her MPH from the University of the Western Cape, South Africa. She is involved in capacity building and training of government and civil society on district health planning and management, within the state and nationally. She has undertaken research and advocacy on issues of health and nutrition, with special focus on tribal areas and communities and has co-edited the 'Tribal Health' module of PHRN. She has been on the Governing Board of SHRC, Chhattisgarh and has contributed to the Mitadin programme in terms of inputs into design of its training modules and various field processes.

15-10 to 15-25	The role of RSBY in UHC	Malti Jaswal Consultant, Health Insurance
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Brief bio of speaker

M Malti Jaswal is a consultant in Health Insurance. She is a post-graduate from Delhi University and has worked with insurance industry for over 26 years in different capacities including as CEO of a TPA (Health). She is an active participant in multi-stakeholder working groups of FICCI and CII on health insurance standardisation, data management, and customer awareness among other topics. She has also published on health insurance operations and RSBY in insurance journals. As a consultant, she has worked on varied projects relating to health insurance training, education, IT, payer-provider exchange platforms, and claims cost control. She has designed a certification course on health insurance for the Insurance Institute of India, to be launched shortly. She has also worked with GIZ on RSBY capacity-building and fraud control, which are her core interest areas. Her current project with public-sector insurers relates to setting up of one of the largest health insurance claims management facility in the country.

15-25 to 16-00	Discussion and remarks by Chair	Bart Criel Head (Health policy & financing) Institute of Tropical Medicine, Antwerp, Belgium
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Brief bio of speaker

Bart Criel (see bio in Earlier Session)

14-15 to 16-00	Parallel Session B Health Service Delivery Challenges to achieve UHC (seasons hall)	Chaired by Siddharth Agarwal Director, Urban Health Resource Centre, New Delhi
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Brief bio of speaker

Siddharth Agarwal is a physician by training and has worked in the fields of research and programming in public health, nutrition, community empowerment, urban health, planning, policy support to National and State governments and towards global public health policy advocacy. He has been working for the cause of health, nutrition and wellbeing of disadvantaged populations since 26 years. He is director of Urban Health Resource Centre (www.uhrc.org), a non-profit organization that works to address health, nutrition, wellbeing of 500,000 disadvantaged urban dwellers through demonstration programs in partnership with slum communities and government departments, and also engages in research, policy support, and advocacy. He has collaborated nationally and internationally with researchers of US Universities on a number of projects dealing with urban wellbeing, health and sustainable development. He has been member of several country- level, state level and international committees and expert groups on urban health. He is Adjunct Faculty at Johns Hopkins Bloomberg School of Public Health and in Department of Global Health at George Washington University School of Public Health and Health Services, and Guest Faculty at Indian Institute of Public Health, Delhi. He is Executive Board Member of the International Society of Urban Health since 2008 and the Society's President during 2010-2011. He has been guiding in-country and overseas PhD and Masters Students for the past several years. He has published and lectured widely on different aspects of healthcare, public health, urban health, wellbeing, policy issues.

14-15 to 14-30	Keynote address : Issues related to health service delivery to achieve UHC	Rama Baru Professor Centre for Social Medicine & Community Health, Jawaharlal Nehru University, New Delhi
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Brief bio of speaker

Rama Vaidyanathan Baru is a professor at the Centre for Social Medicine and Community Health of Jawaharlal Nehru University, New Delhi. For her PhD, she studied the role of private sector in medical care and has extensively written and researched on this topic. She is the recipient of several prestigious fellowships and awards and has written chapters in several books. She has written several articles in peer-reviewed journals. She is the member of several technical advisory groups and editorial boards.

14-30 to 14-40	Challenges in Organizing Quality Diabetes Care for the Urban Poor: a Local Health System Perspective	Upendra Bhojani Institute Public Health, Bengaluru
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Brief bio of speaker

Upendra Bhojani graduated as a dentist and worked with Gujarat government for two years at a tertiary public dental hospital at Ahmedabad with a mix of clinical and academic duties. He subsequently completed his Master in Public Health at Deakin University Australia with major in health promotion. He joined Institute of Public Health, Bengaluru (IPH) in 2007 and is since then working with IPH. For his PhD, he is studying how the role of local health systems can be strengthened to improve chronic disease care urban poor in India. Apart from his PhD work, he is involved in research and advocacy on tobacco control.

14-40 to 14-50	Defining the difficult public health facilities for policy reform to fill up rural vacancies	Jhimly Baruah National Health Systems Resource Centre, New Delhi
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Brief bio of speaker

Jhimly Baruah has a Master degree in Anthropology and a Post Graduate Diploma in District Health Management. She has over a decade's experience of working with National and International Development Organizations and Central and State Governments. Currently, she is a Public Health Planning Consultant with the National Health Systems Resource Centre and provides technical support to state government towards strengthening health systems. Her areas of expertise are programme management, decentralised planning and research studies. She has several ethnographic studies and research to her credit.

14-50 to 15-00	Programme evaluation of the Janani Suraksha Yojana (JSY)	Rajani Ved National Health Systems Resource Centre, New Delhi
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Brief bio of speaker

Rajani Ved is currently Advisor, Community Processes, at the National Health Systems Resource Center, which provides technical support to the Indian Government's National Rural Health Mission. She has been involved in studying and supporting scaling up of innovations in NGO and government health systems and has conducted seminars and workshops for scaling up strategy development. She has also worked in strengthening convergence between women's empowerment programmes and reproductive health with women self help groups. She holds a degree in medicine from Madras University and a Master's in Public health from Harvard University.

15-00 to 15-10	HIV/AIDS and Health Services: Misaligned Policy and Maligned Subjects	Javaid Rashid Jawaharlal Nehru University, New Delhi
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15-10 to 15-20	Achieving UHC – Voices from the field	Bhaktavatsalam District Health Officer, Chikballapur, Karnataka
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Brief bio of speaker

Bhaktavatsalam is the District Health Officer of Chikballapur District, Karnataka.

15-20 to 16-00	Discussion and remarks by Chair	Siddharth Agarwal Director, Urban Health Resource Centre, New Delhi
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Brief bio of speaker

Siddharth Agarwal (see bio in Earlier Session)

16-00 to 16-45	POSTER SESSION	
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16-45 to 17-30	Tea / Coffee Break	
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19-30 to 21-30	Dinner - Hosted by IPH, Bengaluru	
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Day/Date/Time	Session Title (tentative)	Speaker/ Presenter/ Chair
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Day-2 : Saturday 6-10-2012

9-00 to 9-30	Plenary Session Getting Research into Policy and Practice: How to use evidence to change policy (springs hall)	Juliet Nabyonga Health Economist & Medical Officer, WHO-Uganda & Makerere University School of Public Health, Uganda
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Brief bio of speaker

Dr. Juliet Nabyonga is a Medical Officer and Health Economist at World Health Organization in Uganda. In addition to her work based in Uganda, she also supports strengthening of health systems in other countries in the WHO Africa Region. She is also honorary lecturer at the Makerere University School of Public Health, Kampala. Her work over the years has been in the areas of health financing and social protection, economics of health care, policy analysis, assessing performance of health systems and getting research into policy and practice. She has undertaken research in areas including health financing, economic burden of diseases, cost effectiveness and knowledge translation. She is currently a doctoral student at the Antwerp Institute of Tropical Medicine and her area of study is exploring ways of improving uptake of evidence in public health policymaking and implementation.

9-30 to 11-00	Parallel Session C Human Resources for Health (HRH) Required for UHC (springs hall)	Chaired by Werner Soors Department of Public Health, Institute of Tropical Medicine, Antwerp, Belgium
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Brief bio of speaker

Werner Soors accumulated over a decade of experience in primary health care and community health in Latin America before joining the Antwerp Institute of Tropical Medicine (ITM) in 2004. Within ITM, his academic career in the Department of Public Health focuses on the interface between health financing and the social determinants of health. He is elected member of the ITM Board of Governors, representing the Assistant Academic Staff. Since 2008, he also serves as liaison officer for the institutional co-operation between IPH Bangalore and ITM Antwerp.

9-30 to 9-45	Keynote address: HRH requirements to achieve UHC	T. Sundararaman Executive Director, National Health Systems Resource Centre, New Delhi
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Brief bio of speaker

T. Sundararaman (see bio in Earlier Session)

9-45 to 09-55	How to attract health workers to rural areas? Findings from a discrete choice experiment from India	Krishna D. Rao Public Health Foundation India, New Delhi
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Brief bio of speaker

Krishna D. Rao is with the Public Health Foundation of India, New Delhi.

9-55 to 10-05	Effectiveness of financial incentives for recruitment and retention of skilled health professionals for the public health system in Orissa, India	Indira Chakravarthi Public Health Resource Network, New Delhi
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Brief bio of speaker

Indira Chakravarthi is with Public Health Resource Network, New Delhi

10-15 to 10-25	Assessment of factors influencing retention of health workforce in rural and remote areas of Odisha	Shridhar Kadam Indian Institute Public Health, Bhubaneswar
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Brief bio of speaker

Shridhar Kadam obtained his Masters in Public Health from Institute of Tropical Medicine, Antwerp Belgium in 2008. He received MD in Preventive and Social Medicine and MBBS. from Government Medical College, Nagpur. He has 13 years of experience in public health. He has worked with World Health Organization for six years as State Coordinator in the States of Odisha and Bihar. He has also worked with government of Maharashtra for two years where he was involved in teaching, training and health service delivery. At present he is working with PHFI as a faculty since 2008, initially at Indian Institute of Public Health, Hyderabad and presently at Indian Institute of Public Health, Bhubaneswar. He is active part of IIPH and PHFI's research projects specifically focusing on health systems, health care financing, human resources and access to health care and equity. He has also worked with Institute of Public Health, Bangalore as a mentor in Tumkur project. An expert on health systems and equity issues, Shridhar believes in connecting research and training with public health practice and democratizing public health systems so as to provide public health services to the people who are in utmost need.

10-25 to 10-35	HRH issues in public sector	Representative of Karnataka Government Medical Officers' Association
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10-35 to 11-00	Discussion and remarks by Chair	Werner Soors Department of Public Health, Institute of Tropical Medicine, Antwerp, Belgium
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Brief bio of speaker

Werner Soors (see bio in Earlier Session)

9-30 to 11-00	Parallel Session D Governance to achieve UHC (seasons hall)	Chaired by Patrick Mullen Senior Health Specialist Health, Nutrition & Population Unit, World Bank, New Delhi Office
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Brief bio of speaker

Patrick Mullen, PhD, is a Senior Health Specialist with the World Bank in New Delhi, responsible for support to the Karnataka Health System Development and Reform Project (KHSDRP). Along with numerous World Bank reports on health system analysis in a variety of countries, Mr. Mullen has researched in the areas of socio-economic disparities in health and the impact of civil conflict on physical and mental health outcomes. Mr. Mullen received his PhD in Public Health from the Johns Hopkins Bloomberg School of Public Health and also holds an MPH from Columbia University as well as an MA from Carleton University (Ottawa).

9-30 to 09-45	Keynote address: Overview of governance in healthcare	Arima Mishra Faculty, Institute of Public Health, Bengaluru
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Brief bio of speaker

Arima Mishra is a trained social scientist from the Delhi School of Economics, University of Delhi. Currently she is on the faculty in the Institute of Public Health, Bangalore, India. She has had

twelve years of research experience examining several thematic areas in the field of health policy and system research. Recently she has been involved in steering the country component of a multi-disciplinary research project on "Health system stewardship and regulations in Vietnam, India and China" supported by the European Commission. She has also been collaborating with the University of Oslo, Norway to research on 'Health System Strengthening within Vaccination Initiatives' and 'Explaining Differential Immunization Coverage in India and Malawi'. She has several peer reviewed publications including a recently edited book on Health, Illness and Medicine: Ethnographic Readings (Orient Black Swan 2010).

09-45 to 9-55	Decentralization and decision space in the health sector in Karnataka, India	Shreelata Rao Seshadri Azim Premji University, Bengaluru
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Brief bio of speaker

Shreelata Rao Seshadri is with Azim Premji University.

9-55 to 10-05	Analyzing power in health systems: The case of medical dominance in India	Kabir Sheikh Public Health Foundation of India, New Delhi
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Brief bio of speaker

Dr. Kabir Sheikh (Research Scientist and Director, Health Governance Hub, Public Health Foundation of India): Dr Sheikh has a PhD in public health and policy from the London School of Hygiene & Tropical Medicine (LSHTM), and prior training in medicine (University of Delhi) and infectious disease control (LSHTM). His experience of health policy & systems research, teaching and training, health systems strengthening and policy development extends to 15 states of India, Sub Saharan Africa, the Asia Pacific, Bangladesh, Brazil and globally through assignments with WHO HQ, and DfID and AusAID research consortia. Prior to joining PHFI he has worked for leading Indian NGOs and technical agencies. Dr Sheikh is section editor (health systems research) of the journal Health Policy and Planning. He has published widely in peer-reviewed journals, including a recent series of invited articles for the journal PLoS Medicine, on 'Building the field of Health Policy & Systems Research' (2011), and has edited (with Asha George) a contributory volume uniquely focused on issues confronting India's health workforce, entitled: 'Health Providers in India: On the Frontlines of Change' (Routledge 2010). Dr Sheikh is a member of advisory committees of the DfID RESYST consortium and SOCHARA Bengaluru, and he has served on task forces for WHO HQ and the Government of India. In 2011, he led the technical team (community and private sector participation) for the Government of India commissioned report on Universal Health Coverage. Among other honours, he has been an Aga Khan Foundation international scholar (2003-06) and a JN Tata scholar (2003-04), and in 2011 he was awarded a Bellagio scholarly residency to write up his research, entitled "Where there is no other doctor - field perspectives of rural medical service in India."

10-05 to 10-15	Planning processes under National Rural Health Mission: Achievements and challenges for better implementation	Anuradha Jain National Health Systems Resource Centre, New Delhi
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Brief bio of speaker

Dr. Anuradha Jain, a medical graduate with an advance qualification in Public Health from Jawahar Lal Nehru University, New Delhi, has nearly 10 years work experience of National Health Programmes such as RCH and National AIDS Control. Presently, she is a senior consultant for Public Health Planning Team of NHRSC, wherein, she is actively engaged in strengthening of the planning process in the country. Her areas of experience are Public Health Policy research, Evaluation and Impact assessment, capacity building, State and district level planning. She has many publications to her credit.

10-15 to 10-25	Governance 'Toolkits' for Universal Health Coverage in India: Guidance on implementing the expert group's recommendations	Raman V.R. Public Health Foundation of India, New Delhi
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Brief bio of speaker

Raman V.R. is Principal Fellow of the Health Governance Hub, Public Health Foundation of India (PHFI)'s inter-disciplinary programme of research on critical aspects of health governance in low-income contexts, linked to capacity building and advocacy. His work over the past two decades covers different areas of public health action such as policy, planning, research, advocacy, training, community mobilisation and organization-building, towards strengthening public health systems in different state settings of India. In 2011, Raman has served the Planning Commission's High Level Expert Group on Universal Health Coverage, as a Technical Resource Person. He was one of the founding members, in 2002, and later, the Director-in-charge of the State Health Resource Centre (SHRC) in the state of Chhattisgarh, wherein he was part of initiating and managing several health systems initiatives including the Mitandin community health volunteer programme. Subsequently, he mentored the Sahiyya community health volunteer initiative in the state of Jharkhand, and the formation of Jharkhand State Health Resource Centre. He continues to serve both these SHRCs, as a member of their governing boards. One of the founding members of the Public Health Resource Network (PHRN), Raman is currently a member of its editorial advisory board and national coordination committee. His other key associations are with the Jan Swasthya Abhiyan (India Chapter of People's Health Movement) and Peoples Science Movements.

10-25 to 10-35	How polices are made in India: Experiences	H. Sudarshan Secretary, Karuna Trust, Bengaluru
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Brief bio of speaker

Dr. Hanumappa Sudarshan is a social worker, tribal rights activist and a medical doctor. He is widely known for his work that began 30 years with the Soliga tribal people in BR Hills in Southern Karnataka, where he founded the Vivekananda Girijana Kalyana Kendra. He has incorporated traditional medicine into his own practice as well as in primary health centers. Dr. Sudarshan has also maintained integrity of purpose in his service which is exemplary. When the Swedish parliament awarded him the Right Livelihood Award (Alternate Nobel Prize) in 1994, Dr. Sudarshan donated the entire award money to the betterment of the Soligas. Drawn deeply into the lives of the people he serves, the doctor stood his ground in protest when the Soligas were dispossessed of their land by the government. Despite being arrested for this, he refused to yield, and went on an indefinite fast instead, at which the government quickly backtracked. The Vivekananda Girijana Kalyana Kendra, which he set up in 1981, has blossomed into a sustainable tribal development program with few peers anywhere in the country. It has the support of the government of Karnataka, and functions with the autonomy needed to be effective. For his part, from the very founding of the Kendra, the doctor assigned himself only supportive roles, leaving much of the decision-making authority to the Soligas themselves, and later to neighboring tribes as well.

In 1986, he founded Karuna Trust for integrated rural development through health, education and livelihood security. He and his health team has brought incidence of leprosy down from 17 per 1000 people to less than 0.3, hot water epilepsy has been controlled. The trust now focuses on strengthening primary health care through Public-private Partnerships in 5 states, where it runs public primary health centers, addressing gaps in these remote centers through its own innovations - telemedicine, health insurance and integration of mental health to name a few. He has shared his wide experience by volunteering with the Government through his Chairmanship of the Karnataka Governments' Task Force on Health & Family welfare as well as leading a 'battle' against the 'epidemic of corruption' as the Vigilance Director of the Karnataka Lokayukta.

10-35 to 11-00	Concluding remarks by Chair	Patrick Mullen Senior Health Specialist Health, Nutrition & Population Unit, World Bank, New Delhi Office
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Brief bio of speaker

Patrick Mullen (see bio in Earlier Session)

11-00 to 11-30	Tea / Coffee Break	
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11-30 to 13-00	Parallel Session E Monitoring our march towards UHC (springs hall)	Chaired by Patrick Van Dessel Department of Public Health, Institute of Tropical Medicine, Antwerp, Belgium
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Brief bio of speaker

Patrick Van Dessel earned his degree in Medicine (MD, 1991) from the University of Gent, Belgium. He got a diploma in Tropical Medicine (DTM & H, 1992) and a master after master degree in Public Health (MPH, 1997) from the Institute of Tropical Medicine (ITM) at Antwerp, Belgium. In 2012 he will eventually join the doctoral program at ITM on a comparative research project around health sector regulation in Asia. Before starting to work in 2008 for the Public Health Department of the ITM, he was a technical expert and international co-director during 18 years for several health programmes in the international development cooperation of Belgium to Africa (Malawi, Rwanda) and South America (Bolivia). These programmes principally focused on universal health coverage through equitable access to quality healthcare within integrated local health services and systems having a social mission. Logically this became his main focus for research at the Unit of Public Sector Health Care at the ITM. He contributed to international research on organization of health services in South America and on health sector governance and regulation in Asia. He is also involved in international technical assistance and in teaching at postgraduate courses in ITM and abroad. In his career he has carried out several field-based operational and action-research projects. Patrick Van Dessel has presented research findings at international health related conference meetings in Africa, South America and Europe and contributed to a number of peer-reviewed international publications and books. For the last 3 years, during the international HESVIC research Project, he was also part of the ITM paired-partner team to the research team based at the Institute of Public Health in Bangalore.

11-30 to 11-45	Keynote address Monitoring the progress towards UHC	V.R. Muraleedharan Professor Humanities & Social Sciences, Indian Institute of Technology, Chennai
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Brief bio of speaker

V.R. Muraleedharan is with the Department of Humanities and Social Sciences at the Indian Institute of Technology, Chennai.

11-45 to 11-55	Determinants of health management information system performance: Lessons from district health management information system assessment	Amit Mishra National Health Systems Resource Centre, New Delhi
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Brief bio of speaker

Amit Mishra is with the National Health Systems Resource Centre, New Delhi.

11-55 to 12-05	Strengthening monitoring systems and inter-departmental convergence to drive program improvements	George Philip Intra health International, New Delhi
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Brief bio of speaker

George Philip is a demographer and a public health professional and has over 17 years of experience in the field of program management, program planning, implementation, monitoring and evaluation of RMNCHN programs in India. He is working with Intra Health International Inc. as State Director, Uttar Pradesh for the USAID-supported Vistaar Project.

12-05 to 12-15	Designing an information technology system in public health: Some observations from India	T. Sundararaman Executive Director, National Health Systems Resource Centre, New Delhi
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Brief bio of speaker

T. Sundararaman (see bio in Earlier Session)

12-15 to 12-25	Common Review Mission: Reflections on a concurrent evaluation measure	Pragati Singh National Health Systems Resource Centre, New Delhi
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Brief bio of speaker

Pragati Singh is with the National Health Systems Resource Centre, New Delhi.

12-25 to 12-35	Health Management Information System (HMIS) in Karnataka	K.S. Shankar Government of Karnataka
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Brief bio of speaker

K.S. Shankar is the Deputy Director in charge of HMIS and MCTS with the Government of Karnataka

12-35 to 13-00	Discussion and remarks by Chair	Chaired by Patrick Van Dessel Department of Public Health, Institute of Tropical Medicine, Antwerp, Belgium
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Brief bio of speaker

Patrick Van Dessel (see bio in Earlier Session)

11-30 to 13-00	Parallel Session F Role of community in UHC (seasons hall 1)	Chaired by Barun Kanjilal Professor, Health Economics, Indian Institute of Health Management Research, Jaipur
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Brief bio of speaker

Barun Kanjilal has been working in Indian Institute of Health Management Research (IIHMR) as a Professor of Health Economics for the last eighteen years. Before joining IIHMR he obtained Ph.D in economics from Louisiana State University, USA. His main area of interest is Health Economics and Financing, Health System Development, and other aspects of health care management. He has worked, as a consultant or Principal Investigator, on various research programs in India, related to public health financing and management. He is the country coordinator (India) of

"Future Health Systems: Innovations for Equity", a research program being implemented by a group of researchers from several developing countries. The current focus of his research is on how to make health service delivery more effective in the climatically vulnerable areas. Professor Kanjilal has recently co-edited a book "Transforming Health Markets in Asia and Africa" [published by Rutledge, August 2012] in which he wrote a paper on Transition in Indian Health Care Market

11-30 to 11-45	Keynote address Role of community in achieving UHC	Sundari Raveendran Professor, Sree Chitra Thirunal Institute for Medical Sciences and Technology, Thiruvananthapuram
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Brief bio of speaker

Sundari Ravindran is a professor at Achutha Menon Centre for Health Science Studies, Sree Chitra Tirunal Institute for Medical Sciences and Technology. She has been involved with providing technical support to international organisations and countries on issues of gender and reproductive health. She was the Founder and secretary of the Board of Rural Women's Social Education Centre (RUWSEC), Tamil Nadu, India, founded in 1981. RUWSEC is a grassroots women's organisation working on women's wellbeing through women's empowerment. She is also an advisor to several international organisations. She has published several articles in scientific journals and has several books/monographs to her credit. Her recent work has focused on ensuring that the UHC movement ensures better health for women.

11-45 to 11-55	Arogyashreni – Towards creating a replicable model for community monitoring of Primary Health Centres	Sham N Kashyap Grassroots Research and Advocacy Movement, Mysore
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Brief bio of speaker

Sham N Kashyap has a multi-disciplinary academic background. He has Masters Degrees in Computer Science and Agricultural Economics. He has worked in the development sector in various capacities including that of Social Scientist, Policy Analyst, Subject Matter Expert, Trainer and Panchayath Development Officer. His research interests include Agricultural Policy Analysis, Computer Aided Policy Simulation models and Decentralized Rural Governance Systems. At GRAAM, Sham currently coordinates projects related to health governance systems

11-55 to 12-05	Scale-up of community action for health: Lessons from a realistic evaluation of the Mitandin programme in Chhattisgarh	Devaki Nambiar Public Health Foundation of India, New Delhi
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Brief bio of speaker

Devaki Nambiar is with the Public Health Foundation of India, New Delhi.

12-05 to 12-15	Empowering Mothers as Household Health Workers	Kanno Tage Future Generations, Arunachal Pradesh
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Brief bio of speaker

Kanno Tage is with Future Generations, Arunachal Pradesh.

12-15 to 12-25	Community based health committee initiatives in India: A descriptive analysis of Village Health Sanitation and Nutrition Committee (VHSNC) model	Heikrujam Nongyai Nongdren khomba Northeast - Regional Resource Centre, Guwahati
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Brief bio of speaker

Heikrujam Nongyai Nongdrenkhomba has 10 years of experience in development sector especially in health. Presently working with RRC-NE (MOHFW), Guwahati, Assam, previously worked with organization like NHSRC, Delhi, Clinton Foundation, Plan International- India Chapter, MAMTA- Health Institute for Mother and Child etc. Involved in various research studies, assessment and valuation; such as assessment VHSNC, RKS, evaluation of ASHA program, JSY etc.

12-25 to 13-00	Discussion and remarks by Chair	Chaired by Barun Kanjilal Professor, Health Economics, Indian Institute of Health Management Research, Jaipur
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Brief bio of speaker

Barun Kanjilal (see bio in Earlier Session)

11-30 to 13-00	Parallel Session G Evidence from Karnataka (seasons hall 2)	Chaired by Commissioner, Department of Health & Family Welfare, Government of Karnataka
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11-30 to 11-45	Keynote address : Status of the Karnataka health system	M.R. Mohanraju Executive Director, Karnataka Health Systems Research Centre, Bengaluru
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Brief bio of speaker

M. R. Mohanraju (see bio in Earlier Session)

11-45 to 11-55	Evaluation of Skilled Birth Assistants training programme in Karnataka	Vidya Patil Karnataka Health Systems Resource Centre, Bengaluru
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Brief bio of speaker

Vidya Patil is with Karnataka Health Systems Resource Centre.

11-55 to 12-05	Does institutional delivery help in improving infant and child health care practices? A study from Bellary, Karnataka	Animesh Jain Kasturba Medical College, Mangalore
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Brief bio of speaker

Dr Jain holds a Masters degree in Community Medicine from Manipal, diploma in Family Health from SRMCRI, Chennai and has been a FAIMER fellow and a faculty from PSG-FRI, Coimbatore. He is currently an Associate Professor at Kasturba Medical College, Mangalore a constituent of Manipal University. His research interests include maternal and child health, adolescent health

issues, road traffic injuries, childhood bronchial asthma and health systems research. He has been selected as a mentee under the two year health research mentorship programme of the ICRA, St. John's Research Institute in collaboration with PHRI and McMaster University, Canada. Dr. Jain has been awarded numerous fellowships and grants, including the UAB-South Asia ITREOH fellowship to participate in the 9th Annual Sparkman Center for Global Health Public Health Summer Institute (4 weeks) held at University of Alabama at Birmingham, USA (July 2009).

12-05 to 12-15	Village Health and Sanitation Committees (VHSC): Evaluation of a capacity building intervention in Bagalkot and Koppal districts of northern Karnataka	Mohan H. L. Karnataka Health Promotion Trust, Bengaluru
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Brief bio of speaker

Mohan H. L. is with Karnataka Health Promotion Trust, Bangalore.

12-15 to 12-25	Analysis of the Quality Assurance Programme in Tumkur district, Karnataka	Devikoppa Jayaraju, Government of Karnataka
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Brief bio of speaker

Devikoppa Jayaraju is at the Government of Karnataka.

12-25 to 13-00	Discussion and remarks by Chair	Chaired by Commissioner, Department of Health & Family Welfare, Government of Karnataka
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13-00 to 14-00	Lunch Break	
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14-00 to 15-15	Parallel Session H Evidence from Karnataka (springs hall)	Chaired by Vishal R, IAS Mission Director (National Rural Health Mission) Government of Karnataka
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Brief bio of speaker

Vishal R, IAS is the Mission Director for National Rural Health Mission in Karnataka.

14-00 to 14-10	Validating infant and maternal mortality reporting in Doddaballapur taluk of Bengaluru Rural district – A pilot study	M.R. Mohanraju Karnataka Health Systems Resource Centre, Bengaluru
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Brief bio of speaker

M. R. Mohanraju (see bio in Earlier Session)

14-10 to 14-20	Analysis of performance of a PHC in Gulur, Tumkur, Karnataka	G. Sanath Kumar Government of Karnataka
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Brief bio of speaker

G. Sanath Kumar is a medical officer with the Government of Karnataka.

14-20 to 14-30	Maternal health in Koppal	Aditi Iyer Indian Institute of Management, Bengaluru
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Brief bio of speaker

Aditi Iyer is with the Centre for Public Policy of Indian Institute of Management, Bangalore.

14-30 to 14-40	Health Systems Research in Tumkur: Early Findings	N. Devadasan Director, Institute of Public Health Bengaluru
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Brief bio of speaker

N. Devadasan (see bio in Earlier Session)

14-40 to 15-15	Discussion and remarks by Chair	Chaired by Vishal R, IAS Mission Director (National Rural Health Mission) Government of Karnataka
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Brief bio of speaker

Vishal R, IAS (see bio in Earlier Session)

14-00 to 15-15	Parallel Session-I Human Resources for Health-Part II (seasons hall 1)	Chaired by Ravi Narayan Community Health Advisor, Centre for Public Health Equity, Bengaluru
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Brief bio of speaker

Dr. Ravi Narayan is a public health professional and health activist who currently works as a Community Health Adviser at Centre for Public Health and Equity, Bangalore. His main interests include the community paradigm in health and the evolution of health as a social movement.

Dr. Ravi Narayan is an active member of the People's Health Movement network. He was the joint convener of the Jan Swasthya Abhiyan till December 2002 and later coordinator of the Global Secretariat of People's Health Movement from January 2003 to July 2006. Currently he is a member of WHO Advocacy Circle of PHM and also part of the PHM Steering Council and Coordinating Council. He is also associated with the Global Health Watch and a faculty of the International People's Health University.

He is a council member of the Global Forum for Health Research and founding governing body member of the Public Health Foundation of India. He is a member of the Task Force on Primary Health Care of the Planning Commission of India and is also closely associated with two major initiatives of the Central Ministry of Health, the National Rural Health Mission and the AYUSH and Public Health Initiative. He is also a member of the International Advisory Committee and the speciality advisor on public health of the British Medical Journal.

14-00 to 14-15	Keynote address on Human Resources for Health	Kabir Sheikh Public Health Foundation of India, New Delhi
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Brief bio of speaker

Kabir Sheikh (see bio in Earlier Session)

14-15 to 14-25	Determinants of functionality and effectiveness of community health workers: Results from evaluation of Accredited Social Health Activist (ASHA) programme in eight states	Garima Gupta National Health Systems Resource Centre, New Delhi
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Brief bio of speaker

Garima Gupta is a Consultant Community Processes at the National Health Systems Resource Centre. Her major work areas include research and programme management. She was part of the core research team in Evaluation of ASHA programme and Janani Suraksha Yojana (JSY) in eight states; Evaluation of Family Planning strategies; VHSNC evaluation; and HRH study - Can doctors be replaced? Evaluating incentives and performance of different cadres in rural India?

14-25 to 14-35	Engaging traditional, complementary & alternative medical providers for essential health service delivery in India: A policy analysis	Lakshmi K Josyula Indian Institute of Public Health, Hyderabad
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Brief bio of speaker

Lakshmi K Josyula is with the Indian Institute of Public Health, Hyderabad.

14-35 to 14-45	Nurturing nursing in India: The need for governance reform	Raman V.R. Public Health Foundation of India, New Delhi
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Brief bio of speaker

Raman V.R. (see bio in Earlier Session)

14-45 to 14-55	Strengthening Accredited Social Health Activist (ASHA) Support Mechanisms for Improved Home Based Newborn	Abrar Ahmed Khan Intra Health International, New Delhi
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Brief bio of speaker

Abrar A. Khan has over 35 years experience in health and development sectors as a learning facilitator and program developer with NGOs, Government, INGOs and bilateral agencies. As Senior Technical Advisor for the USAID-supported and Intra Health-led Vistaar Project, he provides technical leadership for performance improvement of frontline health workers and their supervisors. Previously, as Capacity Building Advisor with CEDPA, he designed and managed systems for quality training for project functionaries from NGO partners in over 38 districts of UP for the IFPS-1 Project. He has authored several manuals for training of facilitators and health workers. He has a professional degree in Social Work.

14-55 to 15-15	Discussion and remarks by Chair	Chaired by Ravi Narayan Community Health Advisor, Centre for Public Health Equity, Bengaluru
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Brief bio of speaker

Ravi Narayan (see bio in Earlier Session)

15-15 to 16-15	Concluding Plenary - UHC in India (Springs hall) Panel Discussion	Werner Soors (Facilitator) T. Sundararaman , NHSRC N. Devadasan , IPH M. Beena , Government of Kerala Dhanya Kumar B. Government of Karnataka Bruno Gryssels , ITM, Antwerp
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Brief bio of speakers

Werner Soors (see bio in Earlier Session)

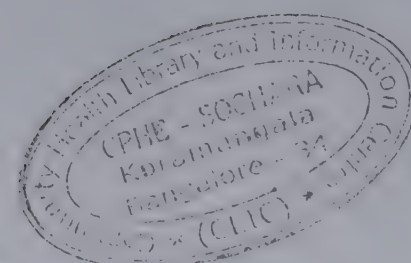
T. Sundararaman (see bio in Earlier Session)

N. Devadasan (see bio in Earlier Session)

M Beena, IAS is with the Government of Kerala

Dhanya Kumar B.N. is the Director of Health Services in the Government of Karnataka.

Bruno Gryssels (see bio in Earlier Session)



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MEETING ABSTRACTS

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POSTER PRESENTATIONS

MEETING ABSTRACTS

Open Access

Bringing Evidence into Public Health Policy (EPHP) 2012: Strengthening health systems to achieve universal health coverage

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ORAL PRESENTATIONS

O1 How to attract health workers to rural areas? Findings from a Discrete Choice Experiment in India

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BMC Proceedings 2012, 6(Suppl 5):O1

Introduction: India's success in attaining universal health coverage will critically depend on its health system's ability to deliver clinical services in rural areas. So far, attempts to increase rural recruitment of doctors through incentives or compulsion have been unsuccessful. In 2010, we conducted a Discrete Choice Experiment (DCE) in the states of Uttarakhand and Andhra Pradesh to understand what health departments could do to make rural service attractive for doctors and nurses. Specifically, we wanted to: (a) examine the effect of monetary and non-monetary incentives on job choices and (b) develop incentive 'packages' with a focus on jobs in rural areas.

Methods: Our study sample included 293 medical and nursing students and 434 in-service doctors and nurses at Primary Health Centres. An initial qualitative study identified eight job attributes i.e. health centre type, area, health facility infrastructure, staff and workload, salary, guaranteed transfer to city/town after some years of service, professional development and jobs in native area. Respondents were required to choose between a series of hypothetical job pairs that were characterized by different attribute-level combinations. Bivariate probit and mixed logistic regression analytical tools were used for the statistical analysis of the choice responses.

Results: Results of the study suggest that individual monetary and non-monetary incentives had little effect on the uptake of rural jobs by medical students (with the exception of post-graduate seat reservation in lieu of rural service). In contrast, nursing students were more inclined towards rural jobs. Further, medical and nursing students from rural areas had a greater inclination to take up rural jobs. For in-service doctors and nurses, salary emerged as the most powerful driver of job choice. Overall, better salary, good facility infrastructure and reserving seats for higher education appeared to be the most effective drivers of uptake of rural posts for students and in-service workers. Combining these incentives can substantially increase rural recruitment.

Discussion: In the context of India, it appears that the supply of medical graduates for rural posts is inelastic. Reserving post-graduate seats for medical graduates appears to be the strongest incentive available. In contrast, the supply is less inelastic for nursing students, in-service doctors

and nurses. For them, better salary, good facility infrastructure and reserving seats for higher education appear to be the most effective drivers of uptake of rural posts. Common interventions to improve the attractiveness of rural service such as providing better housing, while important, do not appear to be the main drivers of health workers' job choice. The study results suggest that there needs to be a focus on 'incentive packages' rather than the current practice of single incentives to improve recruitment in rural areas. Further, increasing the enrolment of medical and nursing students from rural backgrounds could lead to greater rural recruitment.

Competing interests: None declared.

Funding statement: The study was funded by the World Bank.

O2 Effectiveness of financial incentives for recruitment and retention of skilled health professionals for the public health system in Orissa, India

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BMC Proceedings 2012, 6(Suppl 5):O2

Introduction: Lack of skilled personnel for healthcare facilities in rural areas in India has been a chronic problem for several decades now. Since the 1990s, various measures have been recommended and adopted for recruitment and retention of doctors and other skilled health care personnel in rural areas. Providing financial incentives is reported to be the most common strategy. However, comprehensive evaluations of the effectiveness of these measures in the Indian context are rare. This study attempts to fill this gap by undertaking an assessment of the financial incentives scheme for the recruitment and retention of health professionals in the state of Orissa.

Methods: This study is based on document reviews and open ended interviews conducted with doctors and other health officials at the state and district level. The districts, the health facilities and the doctors were purposively selected. Two districts from the 11 incentive districts (Koraput and Kalahandi) and one from the non-incentive districts (Mayurbhanj) were studied.

A total of 27 health facilities were selected. We interviewed a total number of 35 respondents. Of these, 30 doctors were from peripheral facilities of which 11 were from the non-incentive districts and 19 from the two incentive districts. The interview guide covered topics on the respondents' views on the incentives scheme, reasons for joining Government health services, general unwillingness to work in remote areas and suggestions on attracting and retaining doctors in the government health services. Field work was conducted in December 2011-February 2012.

Results: The results of the study indicate that incentives have not been very effective in improving availability of doctors in public health facilities, specifically in the peripheral institutions. It was not the monetary incentive that was the motivating factor for joining or staying in the public sector but a variety of personal and other reasons that influenced this choice. These reasons included limited options of getting jobs in private sector, provisions of reservation of seats for post-graduation for in-service doctors and unsatisfactory service and working conditions. Other factors like increasing administrative work load, poor infrastructure and overall backwardness of the region also influenced the choice to work in rural areas.

Vacancies in several non-incentive districts were equal to or even higher than that in the incentivized districts. The basis for selecting regions for which incentives are given was not very clear. The financial incentive measure remains a 'temporary' one, subject to annual renewal on concurrence from the Department of Finance. Some improvements due to the National Rural Health Mission seem to be at the cost of increasing administrative work of medical officers, leaving little time for clinical work and study.

Discussion: While the shortage of doctors may be particularly acute in parts of Orissa, evidence from other parts of India shows that it afflicts all the states, to a greater or lesser extent. Further, the shortage is not limited to just rural facilities; public hospitals in urban areas too are facing similar problems. Reinforcing available evidence, our study shows that isolated measures focusing only on incentivization cannot redress the problem of chronic shortage of human resources in public health facilities in both rural and urban areas. Improving infrastructure, living and service conditions of the doctors along with incentives would go a long way in attracting and retaining doctors in public health facilities, specifically in rural areas.

Findings from our study also suggest the need for more research evidence to understand the persistent dysfunctional status of the public health facilities in the context of the role of the state and its political and economic ideologies. What are the barriers to achieving satisfactory working conditions for doctors, to health systems strengthening? Why only piecemeal measures from recommendations for comprehensive strategies and systemic approaches are implemented? Can the shortage of personnel for public sector health facilities be addressed without confronting the influence and impact of the larger political ideologies and compulsions of neo-liberalization, and the drive by the states towards promoting private interests in every sector, including healthcare? The answers to these will influence the very understanding of universal health coverage and strategies adopted for health systems strengthening.

Competing interests: Author declares that she has no conflict of interest.

Funding statement: The study was funded by the ICICI Foundation for Inclusive Growth-Centre for Child Health and Nutrition (IFIG-CCHN).

O3

Determinants of workforce availability and performance of specialists and general duty medical officers in Rajasthan, India

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BMC Proceedings 2012, 6(Suppl 5):O3

Introduction: The availability of adequate number of health professionals to manage health programmes alone may not necessarily lead to their successful implementation. The competencies and commitment of these professionals also need to be ensured. One of the biggest challenges, in this regard, has been poor capacity building at every rung of health care. The situation is further worsened by a shortfall in the human resource, especially specialists. There has often been a mismatch between the number of required and sanctioned posts and also between sanctioned and actual number of medical-officers and specialists posted in a health facility.

Methods: In order to study and understand the issues of optimal workforce management and human resource development, a study on determinants of workforce availability and performance of specialists and general duty medical officers was conducted in Rajasthan. The study was done in association with the National Health Systems Resource Centre. The study aimed at assessing the gaps between the services expected and those

provided at a facility level, along with analyzing the recruitment, compensation, transfer and training policy of medical officers and specialists. On the basis of discussions with the National Health System Resource Centre and the State Health Department, four districts were selected on the basis of the Human Development Index (HDI). The institutions surveyed were District Hospital, Sub-Divisional Hospital, Community Health Centres and Primary Health Centres. In addition to an institutional survey, 40 doctors (30 general duty medical officers and 10 specialists) were also interviewed on a pre-designed format. The findings were validated through discussions with the state government.

Results: It was found that one-fifth of the sample doctors had completed 25 years of service. Of all the doctors in the sample, 18% were lady doctors. A large number of doctors employed in the public health system hailed from rural background and expressed an inclination towards receiving specialized training. It was found that the medical personnel were not being treated equally in terms of transfers. A reasonably high degree of dissatisfaction was found among the doctors in terms of their remuneration. Only 11.25% doctors got promoted within 5 to 10 years of their joining the state services.

Regarding the perception on availability of work space, instruments, drugs, supporting staff, logistics and community support, the specialists were found to be satisfied but in case of generalists, only 64% are satisfied.

The survey showed that most of the infrastructural facilities including essential equipments were available in all the district hospitals and community health centres, barring a few in the latter. However, in the primary health centres, such facilities were not sufficiently available.

The results indicate that posting, perception regarding specialization, hierarchical satisfaction, quality of facilities and services and human resource policy are the determinants for the workforce availability.

Discussions: The results of the study call for a need for better planning and management of human resource policy. Such planning should ensure transparency in deployment, transfers and promotions of doctors in the field. Increased and improved facilities should be made available to doctors in peripheral health institutions. Specifically, this would call for placing sufficient nursing staff, making laboratory technicians available, equipping with sufficient material like syringes, needles, cold chain equipments and surgical material.

Competing interests: None declared.

Funding statement: The study was funded by the National Health Systems Resource Centre, New Delhi.

O4

Assessment of factors influencing retention of health workforce in rural and remote areas of Odisha, India

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BMC Proceedings 2012, 6(Suppl 5):O4

Introduction: The scarcity of qualified health workers in rural areas is directly affecting delivery of health services and their quality. Diverse interventions have been instituted by central and state governments to attract health workers to rural areas and to enhance the retention of qualified workers in India. However the reasons for not willing to remain in rural and remote areas are still poorly understood. This study explored factors influencing health workers' retention in rural and remote areas of Odisha.

Methods: We carried out the study in six districts of Odisha selected randomly from three geographic and administrative regions of the state. We used a mixed methods approach to collect both quantitative and qualitative data. A total of 226 semi-structured interviews were conducted with doctors, nurses, pharmacists, multipurpose health workers (MPHW) and laboratory technicians. A multi stage stratified random sampling was used for selecting study participants working at different levels of health facilities i.e. sub centres, primary health centres and community health centres.

Results: We found that except a few districts, the ratio of female MPHW to population was around 5000 in the state, which is at par with the prescribed

norms of government of India. The ratio of government allopathic doctor, laboratory technician and staff nurses to population are: 13000, 40000 and 15000, respectively.

Majority of health staffs perceived "strong personal will to serve people", "physical infrastructure", "training opportunities", "support by seniors", "good schooling for their children" and "promotion avenues after certain years of rural service" as important factors for continuing to work in rural and remote areas.

Most of the participants were found to be satisfied with the respect and trust received from their patients. The support received from the seniors in the health bureaucracy and the local community was also found to be satisfactory.

The major reasons for dissatisfaction that were attributed by study participants to work in rural areas included existing promotional avenues following the terms of rural service, lack of physical infrastructure and schooling facility for the children of the health staff. Five primary reasons ranked in order of priority cited by the study participants for continuing at the same place were, namely, permanent government service, pension facility, social service, source of regular income and job satisfaction.

Discussion: Professional growth in the form of promotion and skill development, suitable physical infrastructure at workplace and schooling for their children along with additional monetary incentives were the key and inter-relating factors influencing the retention of health workforce in rural and remote areas. Hence a combination of interventions like monetary incentives with enhanced career opportunities for professional growth (training, higher studies and promotion), scholarships and preference of seats in reputed (residential) schools to the children of staff and suitable physical infrastructure at workplace would be more effective than financial incentives alone. There is a need for clearly defined human resource policy for health personnel across all cadres with defined parameters for performance appraisal, transfer and promotion.

Competing interests: Authors declare that they have no conflict of interest.

Funding statement: This study was funded by the Technical Management Support Unit, Odisha.

O5

Decentralisation and decision space in the health sector, Karnataka, India

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BMC Proceedings 2012, **6**(Suppl 5):O5

Introduction: Despite long-term commitment to decentralization in India, progress towards a decentralized form of governance has been rather slow. In Karnataka, despite state compliance with decentralised governance legislation from the mid-1980s, local bodies continue to suffer from inadequate power and resources. Under the National Rural Health Mission (NRHM), decentralization plays an important role in monitoring access to and quality of health services. However, after almost a decade of organized decentralisation in the health sector, its impact is still not clear, nor its ability to enhance participation of individuals/communities. There are very few studies that have tried to assess the impact of decentralization on the provision of health care services and health outcomes. There is also a lack of an analytical framework to empirically analyse its impact. Hence, there is limited evidence on the impact of decentralization on improving delivery of health care services and health outcomes worldwide.

In this regard, we undertook a study to ask: 1) does the degree of decentralization under the NRHM correlate strongly with perceived decision space of the officials of the Department of Health and local government representatives at the district level and below? 2) does the capacity of functionaries at different levels of the health system correlate with perceived decision space? 3) does greater perceived decision space by any given functionary lead to better health outcomes?

For the purpose of this research, we define decentralisation as a process, which involves shifting of power and responsibilities between tiers of government by way of various fiscal, political, and administrative instruments. We used Bossert's analytical framework that outlines the concept of decision space, by studying the range of choice that different actors in the health

system perceive as being available to them along a series of functional dimensions.

Methods: The study builds on an initial pilot study in Tumkur district and extends it to an additional six districts of Karnataka, in a combination of developed and backward districts based on the Nanjundappa Committee report. The study includes both qualitative and quantitative data generated from questionnaires, interviews and focus group discussions at the district, sub-district and village levels.

For the quantitative analysis, we designed a decision space questionnaire administered to a range of technocrats, bureaucrats and people's representatives at the district level and below. The questions relate to the respondents' perceptions of power at their disposal. Qualitative data included interviews with the above-mentioned officials. Data pertaining to health outcome indicators taken from District Level Household Survey (DLHS)-3 and state NRHM program implementation plans were then analysed in relation to the perceived decision space.

Results and discussion: The study demonstrates the relationship between perceived decision space and the effectiveness of the health system; and also provides insights into the impact of decentralization in diverse settings. Results of the study showed that overall decision space was limited among all officials at the district level. The limitation was the highest in matters relating to human resources, planning and budgeting.

Program Officers appeared to have greater decision space, and greater control within the specific boundaries of their programs. People's representatives had little influence over decisions made by the Health Department. However, they could contribute with their own funds to specific activities such as providing additional drugs or civil works.

The results of the study suggest that the government needs to spell out in greater detail the exact activities which can be devolved to lower levels of administration; and provide the financial and operational autonomy to bring about genuine empowerment at those levels. Officials need to be trained to be able to carry out the responsibilities allocated to them and to understand better what they can and cannot do under the framework of decentralized decision making.

Competing interests: None declared.

Funding statement: The study was funded by the Azim Premji University.

O6

Analyzing power in health systems: the case of medical dominance in India

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BMC Proceedings 2012, **6**(Suppl 5):O6

Introduction: Power underpins relationships between different actors in health systems and is exercised (or resisted, or subverted) directly by way of coercion and inducement, or indirectly by controlling the ideas and environments that influence other actors to make decisions. Increasingly, abuse and misuse of power have been implicated as key determinants of poor health systems performance in low-income contexts. However the ephemeral nature of power makes it a difficult subject to study, as do the political connotations of such analysis.

Methods: We present case studies from three separate research projects conducted in varied settings in India. The studies draw from bottom up theories of policy implementation analysis, which help to locate intangible themes such as power in real life events and processes.

i) A qualitative analysis of implementation of global guidelines for HIV testing in five cities (n = 46 medical practitioners, health administrators, policy-planners and donors)

ii) A policy analysis of factors influencing the performance of regulatory institutions for health care, in two states (n = 32 health administrators and regulators)

iii) A health systems ethnography exploring the decision-making processes of doctors working in remote rural areas in Chhattisgarh state (n = 37 medical practitioners)

All three studies utilized qualitative research methodology, including in-depth interviews and document review, and the 'interpretive' approach of analysis to understand the experiences of health systems actors.

Results: i) The analysis of implementation of global guidelines for HIV testing revealed that doctors widely resisted pressures to follow the guidelines, yet could rarely play a role in influencing policy change. A combination of this paradoxical balance of power, conflicts between different actors (policy-makers, administrators, practitioners) interpretation of policies, and lack of avenues for the exchange of ideas, contribute to the rift between written policies and field level practices.

ii) The second study describes how public institutions for health care regulation have been subjected to 'capture' by medical professional groups that are represented in these institutions. The performance of core functions of these regulatory bodies is frequently subverted or obstructed by the forces embedded within, with the objective of protecting or serving specific vested interests.

iii) The final case study highlights how doctors performing crucial roles in providing health care in remote rural areas face adversity not only from poor working and living conditions, but also in the form of unsupportive administrative structures, unaccountable promotion and transfer policies, and poor access to continued education.

Discussion: These three studies present a heterogeneous picture of the power of medical professionals in the context of national health systems. While medical professionals continue to hold sway over key administrative and regulatory institutions, this power tends to be directed to the protection of pecuniary and petty political interests, rather than to the upliftment of medical practice. Even as rural doctors struggle to perform under the yoke of unjust administrations, there is evidence that doctors in cities may also be powerless to influence the policies that guide the norms of their practice.

The case studies collectively highlight the crucial role of medical professional power and interests in influencing health systems performance in India, and also demonstrate that a closer appreciation of doctors' vulnerabilities is necessary in order to confront the problem of medical dominance. At the same time they draw attention to the embeddedness of health systems in society – societal norms, structures and balances of power – and consequently of the necessity of societal reforms favouring justice and equity, for improving health systems performance. More evidence on the sociology of health systems is called for, as India moves towards sweeping health sector reforms.

Competing interests: Author declares that he has no conflict of interest.

Funding statement: The author declares that the research studies on which this paper is based were funded by the Aga Khan Foundation and University of London (study 1); the Nossal Institute, University of Melbourne (study 2); the World Health Organization and the Government of India (National Rural Health Mission) (study 3).

O7

Planning process under the National Rural Health Mission: achievements and challenges for better implementation

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BMC Proceedings 2012, 6(Suppl 5):O7

Introduction: The National Rural Health Mission (NRHM) framework for implementation envisaged that District Health Action Plans would be the central hub for decentralised planning, inter-sectoral convergence, implementation and monitoring. These would feed into the annual State Programme Implementation Plans (PIP). Communitisation, including village planning, and locally suited innovations were to be encouraged. District Planning did not however emerge as a creative tool in the eleventh plan period of the Government of India.

This paper attempts to document the processes of planning under the NRHM at state, district and village levels. It also dwells on probable reasons for failure of use of the plans for resource allocation and implementation of the component strategies and activities in the plans.

Methods: The Program Implementation Plans from 29 states, district and block plans from 20 states, and village plans from 12 states were analysed over the period 2007-2011. Primary data for 31 selected indicators were collected by field visits for observation and discussion with key stakeholders. The approach adopted for planning, use of evidence for planning, and effect of capacity building of district planning teams on planning processes were

analysed. Trend analysis of change in the planning teams and its effect on the plan quality, proposed strategies and utilisation was explored.

Results: We observed major improvement in the quality of plans and processes over the early years, from 2007-2010, though with great variability across states. Different teams of state officers and external consultants did the planning in the various states, with varying outcomes in terms of ownership of plans, accountability and creation of sustainable internal capacities. Variable approaches were adopted for village and block level planning.

The use of districts plans was also variable. In most of the states, funds were allocated according to district plans. A fragmented approach to planning, funding, implementation and monitoring was observed. Consistently, strategies of convergence for the vertical disease control programmes and for action on social determinants of health remained the weak areas in the planning process.

Discussion: The analysis clearly brings out the fact that there was improvement over the years in the situational analysis done for planning. However, this does not translate into more context specific plans. The plans made do not get implemented for several reasons. Both to ensure capacities of planning and to bring continuity in planning and implementation cycles, a public health cadre would be meaningful. It would have experts who would take health plans through a cycle of formation, funding, implementation and monitoring every year. The need thus is strengthening, expanding and capacity enhancement of public health institutions to create interdisciplinary teams who can be part of this public health cadre. In addition, the uses of health plans at various levels need to be conceptualised more realistically and creatively. The periodicity of plan preparation needs review for meaningful planning and implementation.

Competing interests: None declared.

Funding statement: The study was funded by the National Health Systems Resource Centre, New Delhi.

O8

Governance 'tool kits' for universal health coverage in India: guidelines for implementing the Expert Group's recommendations

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BMC Proceedings 2012, 6(Suppl 5):O8

Introduction: Serious efforts are taking place worldwide to attain universal health coverage (UHC). In India, although an unattained goal for long, recent recommendations of the High Level Expert Group (HLEG) instituted by the Planning Commission have brought the UHC agenda to its zenith [1]. However, actualisation of HLEG recommendations requires an in-depth understanding of the structural and operational reforms to the health system implied in each recommendation, and the outlining of a detailed implementation framework. Given the widespread limitations of health planning capacities, it was felt important to provide states with 'toolkits' to realise the UHC recommendations.

Methods: The toolkits were developed by a multidisciplinary team of experts specialised in planning, implementation and evaluation of health systems. Each of the recommendations was elaborated into a set of action points, signifying the specific institutional reforms and measures required for their realization. In doing so, lessons were also drawn from comparable national and international experiences. The action points were verified by experts and implementers and developed in the form of a tabular framework, with sub-activities against each action point, a list of stakeholders and a timeframe. While articulating all necessary reforms clearly and specifically in the toolkit, we also accorded care to preserve the flexibility required at different implementation levels. This was to avoid being overtly prescriptive, while at the same time providing focused guidance for application in varying settings. It was also found to be important to provide guidance on the 'how' of the implementation, in addition to the 'what'.

Results: The project is at an interim stage wherein we have finalised the toolkit for the recommendations on community participation and citizen engagement, out of all the recommendations of the HLEG. The work on

other recommendations is progressing. We observe that a systematic analysis of each recommendation opens up a large horizon of implementation challenges. Each recommendation leads into several action points and numerous sub-activities at both national and state level. These include, but are not restricted to devising rules and norms, establishing institutions, employing personnel, undertaking trainings and securing and deploying finances. It is estimated that it will take 18-24 months at the national level, and 48-60 months at the state level, to institute preparatory reforms that are requisite for implementing the UHC recommendations. This may be exceeded in instances where capacities at state level are less developed, or for larger-than-average states. There is a simultaneous need to set into motion local and community-led processes, which in turn necessitate massive capacity-building efforts. The toolkit reflects a paradigm shift from the current trend of centralised technical assistance and out-sourcing, towards self-reliance.

Discussion: In the case of most nationally mandated programmes and reforms, it is widely observed that the lack of adequate detail in implementation guidelines or, conversely, overly top-down or prescriptive guidelines create varied challenges and limitations for the implementers. Crucially, the important step of dismantling or modifying existing institutions is rarely addressed, when institutional or structural reforms are propagated. Newer systems are often layered onto existing decision-making structures creating parallel implementation chains. Further, the establishment of systems of governance is seldom prioritised while instituting reforms, nor is the ethical basis of such governance typically articulated. All these deficits in the reform process result in poor health governance and eventually reflect in health outcomes. In the context of UHC, it is important to have a robust framework that guides governance in an integrated manner, and facilitates better implementation at central and state level. The governance toolkit is one such robust, sensitive and practical approach.

The limitations of the toolkit in its present iteration include that it is restricted to the national and state/UT levels only - yet it contains the potential to be expanded to district, block and peripheral levels. The toolkit has potential to support all levels of decision makers to adopt measures and to ensure better implementation of UHC at their respective levels, and to ascertain the efficacy of these measures.

Competing interests: Authors declare that they have no conflict of interest.

Funding statement: The study was funded by Oxfam India, New Delhi for the Initial phase of "Preparing the Governance Toolkit for Universal Health Coverage" project.

Reference

1. High Level Expert Group Report on Universal Health Coverage for India. [http://www.phfi.org/images/what_we_do/HLEG_Report_complete_file_final.pdf], Submitted to the Planning Commission of India. 2011. (Accessed on August 10, 2012).

O9

Impact of RSBY on enrolled households: lessons from Gujarat

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Introduction: Launched in 2008, the Rashtriya Swasthya Bima Yojana (RSBY) insurance scheme has the mandate of improving access to quality health services of families living below the poverty line (BPL) while providing financial protection against health shocks. Four years following implementation, it is yet to find its presence in all districts of the twenty-eight States in India. Budgetary limitations, the balance between maintaining the claims ratio and sustainability, the contractual relationship between insurance companies and empanelled hospitals, and the weak monitoring system are few challenges that the scheme faces today. In this paper, we explore implementation of RSBY based on the three dimensions of universal health coverage (UHC) stated in the World Health Report 2010 i.e. "the proportion of the population to be covered" (breadth of coverage), "the range of services to be made available" (depth of

coverage) and "the proportion of the total costs to be met" (height of coverage).

Methods: A cross-sectional study was conducted in Patan district in Gujarat using both qualitative and quantitative methods. A household survey was conducted for 3,120 BPL households (17,420 members). Focus group discussions were conducted among these households separately for those enrolled and those who had not. To understand the context of RSBY in Gujarat and the study findings, in-depth interviews were conducted among other actors from government officials to service providers.

Results: Limited awareness of the details of the scheme and its benefits was found to be the most important reason for non-enrolment and non-utilisation amongst enrolled members. It was found that 8% enrolled households never received the card while 30% members of cardholding households were not registered on the card making them not eligible for using RSBY. Among non-insured members in enrolled households, a significantly higher prevalence of women was seen. Of the under-fives, 76% remained uninsured.

Among hospitalisations, the inpatient admission rate among insured members was found to be significantly high (39/1,000) along with utilisation rate of 2.2% when compared to the non-insured and non-enrolled. Around two-thirds of insured users underwent surgical treatment and this was 2.8 times higher than those who did not use the scheme. Due to various concerns with medical packages' reimbursements, many providers have either completely stopped or limit the use of RSBY for non-surgical treatment.

Among the insured users who were hospitalised, only 15% had a cashless experience. The remaining had some out-of-pocket (OOP) expenditure; the median expenditure was found to INR 7,000, similar to those who had not used the scheme or were not enrolled (INR 7,000 and INR 8,000 respectively). This varied greatly between packages. Among the top three packages, 83% of hysterectomy patients, 55% of cataract surgery patients, and 72% of deliveries had some OOP; the median OOP payment to the providers being an additional 100-160% of the actual package rates.

Discussion: In 2011-12, only 45.3% of the eligible BPL households have enrolled in the scheme as per official RSBY figures. This implies that the scheme currently covers 20% of the general population i.e. the bottom quintile considering the average household size of five (Census 2011). As per the design of the scheme, being enrolled implies being insured. However, this study reveals that even in enrolled households a significant proportion of the population remains non-insured due to various reasons and thus is unable to utilise the scheme. This reduces the breadth of coverage further. RSBY covers inpatient services at the secondary level of health services only and based on the findings, mainly surgical services. The issues the non-surgical packages needs to be resolved as a priority barring which preference for surgical treatment will rise among providers and beneficiaries. The most significant finding was the near absence of financial protection offered by the scheme and calls for strict monitoring at the level of utilisation.

Addressing the concerns laid out by this study will help the scheme to mature considerably. Questions of sustainability, permanence and expansion to those above poverty line will also need to be addressed if RSBY wants to be considered a tool for achieving UHC in India.

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O10

Differential financing of public health facilities

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Introduction: The health system in India suffers from low level of public spending and high out of pocket payment. Public health facilities are funded on a fixed and uniform basis irrespective of their needs and performance. The National Rural Health Mission has introduced an innovative approach of flexible financing to public health facilities under Untied Funds (UF), Annual Maintenance Grant (AMG) and Aarogya Raksha

Samithi Corpus Funds (ARS). Funds are currently allocated @ of INR 10000 at village level, INR 20000 at subcentre level, INR 175000 at Primary Health Centre, INR 250000 at community health centre and INR 500000 at district hospital level. Though funds are allocated to health facilities with adequate guidelines and flexibility, utilization of these funds is poor. Given the limited resource available for healthcare in the country, there is a need to rationalize the distribution of funds and allocate them efficiently. We undertook a study to propose a differential financing model for public health facilities.

Methods: We conducted a cross sectional study of 46 primary and secondary level facilities in two districts of Karnataka in the year 2011-12. Retrospective data on resources, finance and performance of 2008-09, 2009-10 and 2010-11 were collected. In addition, interviews were conducted with members of ARS committee responsible for taking decisions on utilization of funds.

Results and discussion: The study found that utilization of funds in health facilities are influenced by several factors. These included per-capita allocation, distance from district headquarter, availability of equipment and infrastructure.

We observed that there was no definite trend of impact of availability of human resources, number of beds, staff residing at the facility compound, training, cooperation among members and availability of guidelines on utilisation of funds at health facilities.

The study strongly advocates the need for a more rational and systematic planning for utilization of funds allocated to health facilities taking into consideration other health system constraints. The study proposes a formula for allocating funds on differential financing method: at the village level committee at INR 10 per-capita, at the sub-centre level at INR 4 per-capita, for primary health centre at INR 6 per-capita, at the level of community health centre at INR 1.04 per-capita and at INR 4167 per functional bed and the current norm of INR 500000 per district hospital. Such a model would result in efficient utilization of funds, leading to better of quality of delivery of services.

Competing interests: None declared.

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O11

Health system strengthening and the importance of public investment: a study of National Rural Health Mission in Bihar

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Introduction: Chronic under-investment in government health systems has led to significant weakening of these systems and crippled their ability to deliver good quality health care. Through the introduction of the National Rural Health Mission (NRHM), there have been efforts to increase public spending in health and strengthen health systems in rural areas. However, evidence shows that the increase in fund did not necessarily result in its utilisation. In the initial period of NRHM, a considerable amount of funds were under-utilised. It was argued that further increase in spending is unwarranted as the public health system does not have the capacity to absorb funds.

The present study is an attempt to draw linkages between system strengthening and fund absorption capacity to argue that only consistent investment can make health systems stronger. This in turn would allow the system to absorb more funds. We tracked the fund flow and fund absorptive capacity under the NRHM at various levels: state, district, block and village. We sought to understand reasons for under-spending and study the various aspects of quality of spending in a district in Bihar.

Methods: Public expenditure data obtained from various levels were analysed. Document analysis of Financial and Management Reports, Audit Reports, Utilisation Certificates was undertaken. Select key informant interviews of stakeholders were conducted using a semi-structured questionnaire to understand causes, processes, institutional practices and organizational culture effecting fund utilization. The data were analysed in order to get an overall picture of the nature and trend of resource allocation vis-a-vis utilisation at state and district levels

Results: Public investment in health is among the lowest in India, when measured in terms of share in Gross Domestic Product. As the results of the study show, since the introduction of NRHM, there has been some growth in the funds disbursed to the states. But, the increase in spending at the state, district and block levels was not adequate, leaving huge unspent balances.

The quarterly break-up of fund flow shows that a bulk of the funds reached the districts only during the latter part of the financial year, hampering the ability to spend. A major bottleneck was the issue of capacity building of staff to deal with the increase in level of spending and comprehending the advance guidelines of the NRHM.

Compared to previous years (before the National Rural Health Mission) fund utilisation has increased and quality of spending has improved. Fund flow processes have become more efficient. Fund absorptive capacity has relatively increased compared to last few years. However, utilisation had been more in activities in the form of entitlements like cash incentives for promoting family planning, safe motherhood programme or activities that run on a vertical mode like the Pulse Polio Immunisation. Funds for activities that required innovation remained under-utilised.

Discussion: Improving absorptive capacity of funds by the states is a long-term process. It would require sustained efforts towards strengthening management and institutional capacities, filling up of vacant posts, higher salaries, greater expenditure on drugs and other consumables.

The task of health systems strengthening has gained momentum over the last two-three years through the NRHM. A rearrangement of the financial mechanism with greater share of states and much greater emphasis on decentralisation may be pointers for a future roadmap on the government's health interventions in the country. NRHM is at best a small step forward in the endeavour to guarantee universal access to health. A gradual increase in health spending with long-term perspective would be crucial to supplement the measures initiated through this umbrella health intervention programme.

Competing interests: Author declares that the study was part of research work undertaken under the Save the Children. However, the opinions expressed are author's personal.

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O12

Challenges in attaining universal health coverage: empirical findings from Rashtriya Swasthya Bima Yojana in Chhattisgarh

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BMC Proceedings 2012, 6(Suppl 5):O12

Introduction: The Rashtriya Swasthya Bima Yojana (RSBY) is a financial protection scheme in India. It is aimed at protecting families below poverty line (BPL) against catastrophic health expenses. It also seeks to increase their access to healthcare and expand the choice of providers.

We undertook a series of studies in Chhattisgarh to examine: a) the key issues in the design and implementation of the scheme and b) ask if the objectives of the scheme are being fulfilled particularly for the marginalized communities in underserved areas. This is significant as the scheme is being promoted as the model and vehicle for universal access to healthcare.

Methods: This paper draws evidence from three studies undertaken in Chhattisgarh in 2011-12. We undertook a quantitative study on enrolment in the RSBY scheme in 270 villages (18 Districts) along with People's Health Movement, Chhattisgarh. Data were collected through a village level questionnaire.

We also did a qualitative study to understand the issues around the design of the scheme through mapping the providers' perspectives. Providers were interviewed in three districts. They were drawn from private for-profit (small 10-20 bedded nursing homes and multi-specialty corporate hospitals), public (medical college, district and sub-district hospitals) and not-for-profit (low-cost and Christian missionary) institutions. Interviews were also held with state-level administrators.

A quantitative study on access of Particularly Vulnerable Tribal Groups (PTGs) to health and nutrition services was undertaken by the research team along with other NGOs. A household questionnaire was administered to 1200 families belonging to these groups.

Results: Our study results show that there had been very low enrolment and usage in remote villages and among vulnerable communities. Instances of denial, lack of transparency and sharing of information with beneficiaries and high out of pocket expenditure were the common findings emerged from the quantitative surveys. Only 32% of the PTG families were enrolled, of whom only 4% had used the card.

Private empanelled facilities were providing narrow and selective range of services. They picked and chose more profitable conditions/packages though experiencing an increase in case load.

Public hospitals reported decline in the number of patients. The public hospitals were unable to compete with private hospitals in better-off areas but reported higher numbers of beneficiaries in tribal blocks. The public hospitals were treating common medical conditions with few surgical conditions/procedures.

We observed that package rates were not sufficient for complications requiring long stay or expensive medication. Both public and private providers were performing few high-end procedures. Not-for-profit hospitals, on the other hand, provided a relatively large range of services (surgeries, orthopaedic procedures, chemotherapy) and reported increase in case loads. They undertook some cost-cutting measures, though without compromising on quality.

We observed that settlement/rejection of claims seemed *ad hoc* and providers adopted 'defensive' (sometimes corrupt) practices against losses.

Discussion: The study shows that RSBY is far from achieving its objectives. Most vulnerable communities are being left out from this financial protection scheme. There is no guarantee of services for the poor. Conversely, private nursing homes benefit from this scheme with increased turnover and income as they selectively choose to treat medical conditions and patients. The public health system is unable to compete and is weakening. Costs of care for medical conditions are being artificially inflated.

There is need for a strong monitoring and grievance redressal mechanism, including transparency during empanelment. Time-bound settlement of claims needs to be ensured through penalties for delays. System for referral and complications need to be evolved and cost for high end packages needs to be revised and made more realistic.

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O13

Challenges in organizing quality diabetes care for the urban poor: a local health system perspective

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Introduction: India is urbanizing at a rapid pace. Moreover, a quarter of the urban population lives in slum areas [1]. Unfavorable social determinants in health and huge inequities in access to healthcare within urban India leave the urban poor with dismal health indicators [2]. The burden from chronic diseases is also on rise in India, disproportionately so for urban population, and is now the leading cause of deaths [3,4]. India is leading the diabetes epidemic in the world [5]. In urban south India, diabetes prevalence is on a rapid rise (from 5% in 1984 to 13.9% in 2000) [6].

There has been a growing concern among public health researchers/programmers regarding the neglect of urban poor in governments' health policies/programs [7,8]. The government health services remain primarily oriented towards management of acute episodes [9]. In this study, we analyze a local health system in Bangalore's KG Halli neighborhood, identify the main challenges in organizing the quality diabetes care, and

discuss the way forward. KG Halli has a population of over 44,500 with one notified slum area. The median per-capita income is INR 2200/month.

Methods: KG Halli is the field site of the Urban Health Action Research Project (UHARP) designed and implemented by the Institute of Public Health (IPH). Its purpose is to enhance access to quality healthcare for the KG Halli residents.

We used the data collected over a period of almost four years (2009-2012) through following tools:

(1) A census covering 9,299 households with a response rate of 98.5% in KG Halli using a structured questionnaire collecting data about socio-demographic factors, self-reported illnesses, healthcare seeking behavior and expenditure;

(2) Audio recordings of six of the periodic meetings of healthcare providers in KG Halli, facilitated under the UHARP;

(3) Field notes from UHARP researchers; and

(4) In-depth interviews with eight diabetes patients (sampled purposively to capture diverse experiences of healthcare seeking and living with diabetes), and semi-structured interviews with 14 healthcare providers, staff from two pharmacies and two laboratories in KG Halli (to understand organization of diabetes care, challenges and suggestions for improving diabetes care).

For the survey, interviews, and meetings, an informed consent was obtained prior to collecting data. We used the health system dynamics framework developed by Van Olmen et al [10] as analytical framework to structure our findings. Quantitative data were analyzed using STATA while thematic analysis was done for qualitative data.

Results: Mixed healthcare provision: Of the two government facilities in the area, the Community Health Center (CHC), run by the state government, provides care for diabetes. In the private sector, there are at least 18 doctor clinics, four hospitals, three laboratories, and many pharmacies. These clinics are staffed by general practitioners (GPs) who reported their training being in various medical systems; modern medicine (four), unani (eight), ayurveda (four), homeopathy (one) and others.

Stewardship/regulation: There is a lack of administrative and operational integration across providers. Only two of the private providers were aware of and registered under the Karnataka Private Medical Establishment Act (KPMEA), a mandatory mechanism to ensure minimum quality in private healthcare provision. All GPs, except for three who were not trained in modern medicine, were practicing modern medicine. None of the providers interviewed were aware of the standard treatment guidelines for diabetes developed at national level. Both interviewees who were managing private pharmacies were untrained pharmacists. Pharmacies and laboratories interviewed reported the practice of kickbacks (10 to 25% of investigation or medication costs) given by them (and other laboratories/pharmacies) to most GPs in the area.

Human-resource/technology/infrastructure: Medical specialists were available with prior appointment in hospitals. The CHC, which is supposed to provide specialist care, neither had specialist services nor offered laboratory investigations for diabetes. Other factors affecting diabetes care at CHC included the frequent stock-outs of diabetes medicines and the limited availability of medical doctors due to frequent deputations and/or turnover. For primary care on an outpatient basis, only five GPs followed some form of medical record system aimed at organizing clinical information over the time. Most GPs prescribed branded medicines and reported negative perceptions of generic medicines ('not safe', 'not as effective as branded medicines'). Though generic medicines were available at some of the private pharmacies, the cost was comparable to that of branded medicines.

Finances: Over 85% of diabetes patients sought care from private providers that operate on fee-for-service basis. 72% of diabetes patients incurred out-of-pocket (OOP) expenditure for outpatient care and of those 22% spent over 10% of their family income on diabetes care. In 3.3% of the episodes, families resorted to borrowing money and/or selling assets.

People's participation in the health system was limited to exercising choice in selecting providers, self-care/medication, and funding the system. Public and private orientation to healthcare delivery coexisted with dominance of the latter one.

Discussion: Some of the challenges highlighted in this paper (e.g., availability of human resource/medicines/laboratory within government sector) are not unique to KG Halli, but affects the government system as a whole. The National Rural Health Mission launched in 2005, aims to

address these challenges. Unfortunately, the National Urban Health Mission, an initiative similar to its rural counterpart for urban areas, has remained in draft stage since 2010.

Considering the dominant presence and utilization by diabetes patients of poorly regulated private providers, there is need to enhance the implementation of the existing regulatory mechanisms e.g. KPMAE. In a pluralistic medical system like the one in KG Halli, there is need for some sort of steering mechanism that enhances coordination across health providers and directs the system towards a common goal. The UHARP has been facilitating actions in this direction with some positive outputs including enhanced coordination and collaboration across the providers in addressing local health issues.

High OOP spending and related impoverishment implies the need for financial protection mechanisms. Expanding the coverage of existing schemes (like *Rastriya Swasthya Bima Yojana*) to include urban poor, as well as the service package to include outpatient care for chronic conditions might significantly reduce OOP payments. Motivating providers to prescribe generic medicines through various mechanisms (e.g. incentivizing, changing the perceptions about generic medicines through effective knowledge dissemination) and making generic medicines available at low prices are other ways of reducing OOP spending. Karnataka government has recently implemented a pilot making generic medicines available at low prices at selected tertiary government hospitals. Expansion of such schemes and making outlets within the community would be a positive step.

Competing interests: The first five authors are part of the team implementing the Urban Health Action Research Project in KG Halli, Bangalore.

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O14

Defining difficult public health facilities

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Introduction: In its efforts to strengthen the rural public health system, the National Rural Health Mission had to address the challenge of getting skilled health care providers to work in rural and remote areas. Learning from states, which had some measure of success with incentives for doctors in such areas, the central government decided to launch a scheme to provide these incentives to states. States were asked to prepare a list of difficult, most difficult and inaccessible facilities based on stated criteria for defining 'difficulty'. However, these criteria evolved by states were often subjective and could not be applied consistently across states. In this regard, The National Health Resource Centre (NHSRC) was entrusted with the task of proposing a standard criterion for defining and determining 'difficulty' which could be consistently and objectively applied across all states and to recommend a policy for incentivisation.

The paper draws on the study undertaken by the NHSRC that documented the process of evolving the criteria, validation, the process of negotiation with the states and outcomes in terms of standards for defining the criterion of difficult health facilities.

Methods: Based on pilot studies, a preliminary set of criteria was developed to define and determine the 'difficulty' in four dimensions i.e. physical accessibility, environment (social and physical), housing availability and experience of vacancy. These criteria were applied to assess public health facilities above the sub centre and below the district hospital in 26 states.

Each facility was scored on physical accessibility (A score), environment (E score), housing and family amenities (H score) and vacancy situation (V score) with a numerical score range of 1-5. The score five being the worst or most difficult. The final category for each facility was expressed as a composite score of AEH and V: most difficult being A5, E5, H3 and the least being A1, E0, H0. Then in a process of negotiation with different states, the threshold for difficulty measures was set and additional criteria were added or removed to make it compatible with subjective factors.

Results and discussion: The study resulted in an extensive database of 26,876 health facilities across 620 districts. This data base had every facility scored for difficulty level by physical distance from an urban area, environmental and social factors, housing and family amenities and experience with vacancy. Initial categorisation of difficulty levels was tweaked with additional or modified criteria to bring it closer to states' perceptions without losing the objectivity and measurability of the process. The subjective perception of 'difficult' matched objective measures of difficulty in over 90% of facilities. However in ten percent, there was no easy resolution. Perceptions of difficulty varied widely across states.

The study categorised the public health facilities into 'not difficult' and 'difficult' and the latter into three levels of difficulty. The strength of the study is its extensive data base with measures of difficulty for every health facility above a health sub-centre. This allowed the perception of states to be compared with measurable indicators.

Application of a single criterion applied across all states found no health facility as 'difficult' in states like Punjab or Tamil Nadu while over one third were considered 'difficult' in states like Chhattisgarh or Uttarakhand. While the central government had to prioritise the hilly states, even the better off states needed incentives for what was considered as relatively 'difficult' in their contexts. The results of the study recommend that it is important to develop criteria that take into considerations of both standardisation and flexibility, though the experiences of negotiation with states showed varied responses to such a recommendation.

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O15

Program evaluation of the Janani Suraksha Yojna

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BMC Proceedings 2012, **6**(Suppl 5):O15

Introduction: The Janani Suraksha Yojana (JSY) was launched in 2005 as a response to high maternal mortality in India. The scheme was driven by global evidence that conditional cash transfers enable behaviour change, in this case, rise in institutional delivery. The scheme had a differential

incentive entitlement based on urban or rural areas and high or low performing states. The incentives for women in rural areas of low performing states are: INR 1400 for institutional delivery and INR 500 for home deliveries. However in case of home deliveries many exclusionary practices denied benefits of the scheme to women below 19 years of age, higher parity and those entitled but without holding the Below Poverty Line (BPL) card.

The paper draws on a study evaluating the effectiveness of the scheme. The objectives of the evaluation were: to assess trends in institutional delivery, the availability and quality of care at delivery and in post natal period; the capability of health institutions and the role of village level health workers called the Accredited Social Health Activists (ASHA). Impact evaluation on maternal mortality was not attempted.

Methods: Three districts in each of eight EAG (Empowered Action Group) states were selected as high performing, poor performing and tribal districts. This categorisation was based on number of institutional deliveries during 2008-09 and proportion of scheduled caste/ tribe population. Quantitative and qualitative methods were used to map the contexts, mechanisms and outcomes as evidenced from primary and secondary data. The quantitative survey conducted in twelve districts included 2759 institutional deliveries and 710 home deliveries. In addition to assessing access and quality of services, the evaluation aimed to capture what actually happened and why.

Results and discussion: The study shows that over 50% of women who had their previous delivery at home had opted for institutional delivery. However despite this increase, there were about 40% home deliveries, with a range from 7.7% to 63%. Reasons reported for home delivery included limited access to transport, poor service quality, high costs in institutions and cultural preferences.

Home deliveries were primarily occurring among women who were younger than 19 years, had higher parity, belonged to marginalized groups and without the entitlement card that would provide preferential access. The study also demonstrated significant out of pocket expenses. Such expenses amounted to INR 1400 to INR 1600 on an average, primarily on account of payment for transport and drugs. The steep increase in institutional delivery, despite the fact that out of pocket expenditure exceeded the cash transfer, signified that women preferred institutional delivery for health and safety reasons. The increased availability of services was also a major contributor to the change. Private sector accounted for only about 12.5% of all deliveries. However, for complications, private sector provided 60% of care though for complications that required hospitalization, the distribution between public and private sector was almost equal.

The study supports the contention that JSY has resulted in an increase in institutional deliveries, and that it has enabled and empowered poor women to access public health facilities. However issues like the exclusionary criteria for both home deliveries limit access of the most vulnerable category. Persistent high out of pocket payments also need to be addressed urgently. Increases in human resources and infrastructure had not been sufficient to provide quality services. Major recommendations emphasized, removal of all exclusionary criteria in case of home and institutional deliveries, provision of free pregnancy and newborn care and increasing infrastructure and human resource providing emergency obstetrics and neonatal care services.

The interpretation of findings and recommendations in the emerging context of universal health care, resulted in converting a scheme based on the logic of conditional cash transfer into an "enabling entitlement" approach. Emphasis shifted to assured free drugs and transport to pregnant, post partum women and newborns and the pressure builds up to remove all conditionalities.

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O16 HIV/AIDS and health services: misaligned policy and maligned subjects

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BMC Proceedings 2012, **6**(Suppl 5):O16

Introduction: HIV/AIDS has often been described as the most contemporary global health concern. The understanding of HIV/AIDS has come a long way from it being largely identified as a disease of certain selected groups (based on their region, ethnicity, behaviour and sexual orientation) and Africa as the epicentre of the epidemic to it being a transnational disease which has its roots in colonialism, poverty, gender discrimination and racism. AIDS as a global concern and as a significant international-relations issue has mobilized institutions and resources all over the world. Many countries have made huge allocations for AIDS prevention programmes and many policies and programmes have been formulated to reduce the rates of HIV transmission. But the way HIV/AIDS has been conceptualized in these policies, reflects a very positivist, de-contextualized and narrow bio-medical approach. A lot of focus has been on 'behavioural therapy/change programmes' and promotion of safe sex. It is anticipated that awareness of HIV and promotion of condom use will help people practice safe behaviour and thus reduce the transmission. Such an understanding fails to consider the fact that behaviours are patterned by social, cultural and economic circumstances, which cannot be changed or altered by information, which is de-contextualized and insensitive to varied social settings.

The paper examines the social implications of HIV/AIDS and how it impacts the infected individuals, their health, interpersonal, societal relations and their livelihood. By analysing the accounts of people living with HIV/AIDS, the paper seeks to capture their lived experiences. It also attempts to analyse the relationship of HIV/AIDS prevention as a Millennium Development Goal with other Millennium Development Goals.

Methods: The study was conducted in Delhi. As it was quite difficult to locate and approach the HIV infected-people, the organizations working with people living with HIV/AIDS were approached. This facilitated the interaction and meetings with the respondents.

Twenty cases were selected considering the efficiency and requirements of the research. Recruitment into the study was on a voluntary basis with the oral consent of the individual. Respondents were assured of anonymity and were encouraged to terminate the discussions if and when they deemed it appropriate to do so. To illuminate the ways people make sense of, and live with HIV/AIDS, this study adopted an interpretative phenomenological approach in analyzing the data.

Results and discussion: It was found that targeted and a compartmentalized approach to HIV prevention has led to stigmatization and further marginalization of people living with HIV/AIDS. The suffering due to HIV/AIDS is significantly linked to poverty, inequality and other socio-cultural determinants. It is argued that there needs to be a comprehensive programme that conceptualizes, contextualizes and integrates HIV prevention with other millennium development goals like poverty alleviation and improving reproductive health. Through an exclusive focus only on reducing the infection rates, international and national policies fail to deliver care, support and importantly 'livelihood' for the people infected. It is the multi-faceted suffering of infected people that goes unnoticed and hence neglected in current efforts to prevent HIV/AIDS.

Competing interests: Authors declare that they have no conflict of interest.

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O17 Determinants of Health Management Information Systems performance: lessons from a district level assessment

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BMC Proceedings 2012, **6**(Suppl 5):O17

Introduction: Developing Health Management Information Systems (HMIS) is challenging in a developing world context where health professionals and managers face complex socio-political and health system challenges. In India, a nation-wide HMIS was put in place under the National Rural Health Mission in 2008. Currently, this system provides monthly reports on over 300 data elements from all the 642 districts in the country. However, the system's performance in terms of use of information lags behind expectations. Issues around data quality and institutional capacity have also been a concern. This study has been conducted with the objective of

understanding the determinants of data quality and use of information at district level.

Methods: Data for this study were collected from 35 districts of 18 states in May-December 2011. Multistage random sampling was used to identify two districts in each state and ten facilities covering all levels of public health facilities in each district. Data status and flow at the block and district level were also assessed. Primary data of the study was collected by administering a semi structured questionnaire to program managers and data managers at district and block level and auxiliary nurse mid-wives at the facility level. In addition, data collection and reporting processes were closely observed by the research team. Secondary data were collected from records at health facilities in blocks and districts.

Results: All 35 districts had reported regularly for all months in the study period and had adequate human resources and computers with internet connectivity. Training had been received by the auxiliary nurse midwives (88% of districts), data entry operators (100% of districts) and by all users of the information system (29% of districts). In only 6% of districts, program managers were trained on the use of information. Other than data entry operators, no other category of staff received any refresher training.

Error management protocols and data validation protocols have been established in 20% of districts. No district had developed protocols for non-reporting, incomplete reporting, bulk reporting and post data entry error management. 18% of districts established institutional structures for management of the information system at district level in the form of HMIS teams and 23% of districts made institutional arrangements for data collection from private sector.

In 77% of districts, facility registers were not compatible with the system's data requirements. In 85% of districts, district hospitals used handmade unformatted registers where data extraction was difficult.

In 52% of districts, district hospital managers were unaware of the reporting requirements. Pre-existing reports on reproductive and child health were still used parallel to HMIS in 77% of districts with conflicting data collection processes. 43% of districts had started giving feedback to the block on monthly basis. However indicators based feedback has started in only 11% of districts. We observed little discrepancy between reported and recorded data.

Discussion: Poor quality of data is often perceived as largely being a matter of better enforcement of the rules, or of computer related skills or even disciplinary action against false reporting. Our study shows, that these are not serious limitations. The problems of quality data are due to operational design constraints in program organization at each stage of information flow: - in the collection, processing, reporting and analysis of data. Managerial capacity and the capacity to use information lags behind in places where there are deficits in capacity related to human resource, computers and data entry skills. These deficits get compounded by the design features in the software, which are not friendly to local use of information. Institutional capacity gaps need to be addressed through incremental innovation and improvements to maximize the use of information through the HMIS.

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018

Strengthening monitoring systems and inter-departmental convergence to drive program improvements

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Introduction: Under the National Rural Health Mission, an initiative has been taken to provide 15 integrated maternal, child health, and nutrition services through outreach sessions like the Village Health and Nutrition Days (VHND). Such sessions are organized in the village at a fixed day, place and time through convergent actions by the departments of health and the department of women and child development. Due to inadequate

dissemination of guideline for conducting outreach sessions, health workers often lacked clarity in understanding their role. Services are often limited to immunization. There is inadequate monitoring of these sessions with no functional forum to review the performance of the session and problem solving by both the departments involved.

Methods: The IntraHealth-led Vistaar Project provided technical assistance to the Government of Uttar Pradesh to expand the quality and coverage of VHNDs in eight districts. The project worked with district staff of the ministries of health and women and child development through:

- Orientation of district officials and frontline workers on VHND guidelines and creating role clarity;
- Promotion of structured monitoring through an observation checklist and orienting supervisors on its use;
- Designing an auto analysis package for regular analysis of observation and related capacity building to the system;
- Facilitation of joint micro-planning;
- Activation of convergence platforms to meet regularly, with VHND review on the agenda using data from monitoring visits to review program performance and drive improvements in access, coverage, and range of service; and
- Orienting members of Panchayati Raj Institutions and Village Health and Sanitation Committees on their role.

Results: Results of the study show that the project intervention resulted in improved inter-departmental convergence. This is reflected in joint micro-planning, the presence of all the three front line health workers at VHND sessions to provide an expanded range of services and joint review of program performance.

Findings from the project management information system indicate that between July-September 2009 to April-June 2011, VHND sessions at which frontline workers from the both the government departments were present, increased from 61% to 81%, the mean number of services offered during VHND increased from 5.6 to 8.1 and blocks where monthly convergence meetings were held, increased from 58% to 94%.

In terms of improved monitoring, we observed that percentage of VHND sessions at which supervisors from both the departments of health and women and child development were present, increased from 21% to 26%. Observations by supervisors resulted in immediate feedback to frontline workers.

These results are consistent with end line survey (Jan-Mar 2012) findings. Additionally, end line data showed that among currently pregnant women, awareness of VHND was widespread (88%) and they knew both the date and location of VHNDs in their area (67%). More than three quarters of pregnant women reported presence of all the front line workers at the VHND site.

Discussion: Improving monitoring of VHNDs was critical at two levels. At the field level, it resulted in feedback for improving the quality of services. At the managerial level, the review of data from monitoring visits resulted in improved worker deployment and ensuring equipment and supplies to provide an expanded range of services.

Increasing ownership through orientation on guidelines and joint planning and using data during regular review meetings create opportunities for successful program delivery. While data are collected for most government programs, it is passed on to the state and national level and rarely used locally to assess and improve program performance. In order for data to be used at the block and district, capacity building was required for collection, verification, randomization and analysis. The Project had maintained the MIS throughout the life of the Project and in its sustainability phase it has initiated capacity building at the block and district levels.

Another learning is that if just top level indicators are tracked, it does not serve the data needs of program implementers who may require more complete information on which gaps to address. A comprehensive checklist is more useful at the district and block levels. VHND is a priority under the National Rural Health Mission in India and the lessons learned about convergence, improved monitoring and use of data has potential for replication and wide scale-up.

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O19

Designing an information technology system in public health: observations from India

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BMC Proceedings 2012, **6**(Suppl 5):O19

Introduction: The use of information technology in healthcare has seen varying success across states, due to differing institutional capacities. Despite isolated successes and partial gains, public health information technology systems in the country are unable to support integrated decision making at either district or state levels. An emphasis on technological advancements without significant attention to systems design has limited the potential gains from applications of information technology. This paper is an effort to describe the level of public health information technology systems development over the eleventh plan period and examine the architectural constraints that constitute a common problem across systems.

Methods: All information technology systems serving any public health system need were listed. These were then categorized into types based on objectives and operational design features: - patient based reporting, aggregated reporting, disease reporting and family health survey based reporting. From this list, a representative set of eight major public health information technology systems were selected for the study. These were: national Health Management Information Systems (HMIS), mother and child tracking system at the national level and in Gujarat state, the information technology systems that support malaria, AIDS control and integrated disease surveillance programme and the state Health Management Information Systems in the states of Odisha and Tamil Nadu.

Functional efficacy was determined with the help of semi-structured functionality assessment tool which included parameters on user friendliness, data input-output, quality management functions, availability of analytical tools, flexibility of system and change management. Implementation and systemic aspects were then defined through discussion held with respective stakeholders.

Results: Despite the influx of information technology in health, most of the systems have not achieved their objectives. Public health information technology systems have faced similar challenges of design and development. These challenges characterise a cyclical process of development that begins with high expectations followed by achievement of modest functionality, then increasing problems especially overload and finally a collapse to be followed by the next cycle of development.

Most systems required substantial changes after release, as programme managers were not skilled enough to articulate their requirements to software professionals. Data entry options lacked flexibility to adjust to different institutional capacities. This restricted data entry in the system. Data output options were also not flexible for different levels of users. Systems designs did not lend themselves to constantly changing programme reporting needs. Limited analysis functions were made available in seven of the eight systems examined.

We observed that all systems used their own data and reporting standards, which led to fragmentation and duplication. Data could not be shared between the systems, leading to a double burden of reporting for providers and loss of integration for the managers. Data security and privacy standards were not defined adequately across systems. Almost all information technology systems suffered from adoption issues due to poor capacity-building and change management.

Discussion: The study revealed that public health information technology systems are working as reporting tools rather than programme management information systems. Various technical, organizational and capacity-building issues have been identified. System designs should prioritize the requirements of support to mid level programme managers and local users in their management activities other than reporting. This would bring substantial improvements in quality of data. All systems need to agree to some data and interoperability standards so that integration process can be initiated. Additionally focused capacity-building strategies are required to address adoption challenges. In this regard, a nationally acceptable electronic

architecture based on standards of interoperability is required to be placed to help integration and standard application development in public health.

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O20

Common Review Mission: reflections on a concurrent evaluation measure

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BMC Proceedings 2012, **6**(Suppl 5):O20

Introduction: One of the challenges that the National Rural Health Mission (NRHM) faces is its ability to evaluate the progress of the programme in diverse contexts and use such evidence to constantly improve programme design and implementation. The National Rural Health Mission has put in place several measures for concurrent evaluation to review the progress of the programme and inform management decisions. One such measure of evaluation is the Common Review Mission (CRM). The Common Review Mission meets once in a year. The paper assesses the effectiveness of Common Review Missions as a methodology for programme assessment, as a programme component leading to improved service delivery and as a tool for informing policy decisions.

Methods: We did a document analysis of the common review mission reports available since 2007 to understand the composition of the mission, methods of assessment used and outputs. We examined progress on some key parameters as assessed and reported in these reports. We also consulted citations of reports of the mission in various research publications. Key informant interviews were conducted with decision makers in public health system to understand the utility of Common Review Mission reports.

Results and discussion: Since 2007, the Common Review Mission has met five times. All Common Review Missions are collaborative efforts of a multidisciplinary team of government functionaries, public health experts, civil society members and development partners to reflect and examine the changes achieved under the National Rural Health Mission. On an average, 170 such experts constituted the mission distributed in 12 to 15 teams. The administrative coordination is undertaken by the Ministry of Health. The National Health System Resource Centre leads the analysis, drafting, discussions and finalization of the report.

An analysis of five CRM reports shows that the most productive part of the evaluation process is the dialogue held with different states, which helps state officials to identify gaps and initiate corrective action. The structure and tools of information gathering used by the CRM teams have become increasingly refined over the years. These have become a template for much of subsequent monitoring visits by the National Rural Health Mission.

At the policy level, Common Review Mission is a major source of information for research publications on the programme - including the series on Indian health sector in Lancet, Indian Journal of Community Medicine and Journal of Global Health. The use of the reports in national policy level for planning and improving implementation has been rather limited. It is imperative that data from such concurrent evaluations measures are fed back into the process of planning and implementation of programmes.

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O21

Evaluation of SBA training programme in Karnataka

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BMC Proceedings 2012, **6**(Suppl 5):O21

Introduction: Skilled birth attendance (SBA) refers to the care provided to a woman and her newborn during pregnancy, childbirth and immediately after birth by an accredited and competent health care provider who has at her/his disposal the necessary equipment and the support of a functioning health system, including transport and referral facilities for emergency obstetric care. The skilled attendant is at the centre of the continuum of care. At the primary health care level, she/he will need to work with other care providers in the community, such as traditional birth attendants and social workers. She/he will also need strong working links with health care providers at the secondary and tertiary levels of the health system. The government of Karnataka is committed to ensure universal coverage of all births with skilled attendance and in this direction has introduced SBA training. This study was mandated with the intent to evaluate the implementation of SBA training for staff nurses and auxiliary nurse-midwives (ANM) across the 30 districts of Karnataka.

Methods: A multistage, stratified, random sampling with 95% confidence level and 5% confidence interval was used wherein all the primary units (SBA trained personnel) of the sampling frame were divided into two secondary groups namely SBA trained staff nurses and SBA trained ANMs. These secondary groups were further divided into district wise groups. At the district level, SBA trained staff nurses were divided into four categories depending upon the institutional category she was coming from. Similarly SBA trained ANM were divided into five categories based on her institution level. Study sample was taken from these groups based upon the sample size. Overall a sample of 706 SBAs was picked for their knowledge and skill evaluation.

Results: In the knowledge test, we found that overall 82% of the SBAs (SN and ANM together) had knowledge about various aspects of antenatal, intranatal, postnatal and infection control practices, with SNs having relatively higher knowledge than ANMs (83% vs. 80%). Skill evaluation of SNs and ANMs revealed statistically significant differences in their performances. On the aspect of care of the mother and child, the performance of ANMs was better than that of the SNs; the reason for this could be the postnatal visits and observations by ANMs which are integrated into their job profile. There is an association between knowledge and skills acquired across all categories among both the groups of SBA, but this association was not found to be statistically significant.

Discussion: In order to reach the stated goal of complete coverage for all childbirths, a state level policy on SBA clearly identifying the role of each level of public healthcare facility and healthcare provider is needed. The services delivered at private institutions should be included in the ambit. Based on the state policy, the role and scope of work for the ANM posted at a subcentre should be clearly defined. SBA training for ANMs may then be customized to lay greater stress on antenatal care, identification of complications during labour and childbirth and their prompt referral to the suitable level of facility.

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O22

Does institutional delivery help in improving infant and child health care practices and health promotion related parameters? A study from Bellary, Karnataka

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Introduction: In spite of emphasis on institutional delivery, a considerable number of births are being conducted at home and by traditional birth attendant (TBA). Institutional delivery is hypothesised to improve health seeking behaviour and health care practices related to infant and child care. In this paper we report that in a poorly performing district institutional delivery does not seem to change the health care practices of the people.

Methods: The data presented here are a part of a larger two year long study at Bellary and Dakshina Kannada districts of Karnataka. The results

reported pertain to the cross-sectional community-based house-to-house survey carried out among 2,158 households in Bellary regarding births during the five-year period before survey among ever-married women. The study has obtained ethics approval.

Results: A total of 1,010 deliveries were at an institution, while 1,148 deliveries took place at home. Of these, 891 deliveries were conducted by TBAs. Majority of mothers who delivered with the help of a TBA had not been explained about breastfeeding and its importance.

Delayed breastfeeding beyond two hours after birth was seen in 38% of institutional deliveries as opposed to 62% home deliveries. Though 79% babies delivered at home were given pre-lacteal feeds, a large number (57%) of those delivered at institution also received pre-lacteal feeds. The weaning practices were also very similar in both the groups. Majority of the women delivered at home (by TBAs) had undergone antenatal check up by either a doctor (private 41% and government 21%) or a nurse (12.7%). More than half of the houses where delivery was at home or by a TBA were in close proximity (within 5 km in 62%) to a health facility.

Treatment-seeking behaviour for childhood illness was similar in the institutional and the home birth group. The majority went to private clinic or hospitals (55% home delivery vs. 60% hospital) followed by chemist shop (without prescription) and alternate system of medicine.

Discussion: Health seeking behaviour and health care practices depend on the beliefs and awareness among people. Availing antenatal care is hypothesised to promote institutional delivery but this did not seem to be the case in Bellary. Institutional deliveries too did not help in doing away with practices related to delayed breastfeeding and supplementary feeding as well as pre-lacteal feeds. Mere emphasis on institutional delivery seemed to be ineffective in changing the perception and beliefs of people leading to practices, which may be harmful to child's health. Non-utilization of health facilities for delivery in spite of proximity calls for a relook at the availability, affordability and quality of services at these facilities. Institutional delivery *per se* may not be the answer for infant and child care practices. Sustained efforts by means of campaigns and awareness activities coupled with the use of mass media may help in improving the health care practices. Health systems research and study of local traditions are needed before implementing a tailor-made strategy for improving the health care practices and behaviour in a district/region.

Competing interests: Authors declare that they have no conflict of interest.

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O23

Validating infant and maternal mortality reporting in Doddaballapur taluk of Bangalore Rural district – a pilot study

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Introduction: Infant and maternal deaths are highly under-reported in the state. Incentives are given to the community to encourage reporting of infant and maternal deaths but this has not helped much. Consequently infant mortality rate (IMR) and maternal mortality ratio (MMR) reported by various districts are low and are not comparable to surveys such as the sample registration survey (SRS) or national family health surveys. This is affecting the quality of the planning undertaken at districts and state. The IMR reported by districts range from 8 to 20 deaths per 1000 live births, whereas according to SRS 2010 it is 38 per 1000 live births for Karnataka. Similarly MMR reported by districts is usually less than 100 maternal deaths for 100,000 live births, while by SRS 2007-09 it is 178 for Karnataka.

Methods: We conducted a pilot study in Doddaballapur taluk of Bangalore Rural district. A house-to-house survey was got conducted in the taluk by Accredited Social Health Activists (ASHA) in the rural area and Anganwadi workers (AWW) in urban areas using a predesigned format. They were trained for conducting house visits and collection of data. The reference year taken was 2010-11 (April 2010 to March 2011). Every house was visited by the field investigators, who collected details of the deliveries, still-births, live births, infant deaths and maternal deaths for the reference period.

Table 1(abtract O23) Data on deliveries, stillbirths, live births, infant and maternal deaths from three sources

Events	Taluk routine data	Survey	Department of econ. & statistics
Deliveries	4508	3112	Under compilation
Stillbirths	19	16	Under compilation
Live births	4489 (3 twins)	3099 (3 twins)	3011
Infant deaths	40(including deliveries of 2009-10) 32 exclusive for 2010-11	45 (for 2010-11)	Not available
Maternal deaths	6	6	Not available

This was supervised by the taluk health officer of Doddaballapur taluk. The data so collected were compared with the departmental data committed by taluk health officer for the year 2010-11. They were also triangulated with the vital statistics, if available from department of economics and statistics.

Results: The results are summarised in Table 1 below.

Considering the accuracy of the civil registration system (CRS) to be 97% for births it is found that the number of live births as recorded by CRS and as obtained by survey are matching while the live births reported by the taluk are highly exaggerated. Similar is the case with deliveries. But number of stillbirths are comparable and maternal deaths are identical by survey and taluk data.

Discussion: The possible reasons for over reporting of live births (deliveries) could be due to duplication at various levels. In the year 2010-11, Karnataka state followed area-based reporting for first four months and facility-based reporting for the remaining eight months. Hence the data is a mixture of area- and facility-based reporting.

Reasons for under-reporting of infant deaths were largely due to facility-based reporting by the institutions. Based on this study following recommendations were given to the state.

- Periodically check the data reported by the health department along with statistics of Department of Economics and Statistics;
- Encourage prompt reporting of infant and maternal deaths by community through better awareness generation;
- Audit every stillbirth (as infant deaths are reported camouflaged as stillbirths);
- Make reporting mandatory in private facilities and collect these data promptly (Underreporting in urban areas is mainly from private facilities).

Competing interests: None declared.

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O24

Village Health and Sanitation Committees: evaluation of a capacity-building intervention in Bagalkot and Koppal districts of Northern Karnataka

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BMC Proceedings 2012, 6(Suppl 5):O24

Introduction: Engaging the community in planning and monitoring of health service delivery is central to enhancing the availability, accessibility, quality, and use of the public health system. The National Rural Health Mission (NRHM) has positioned community ownership as central to its strategy, primarily through the Village Health and Sanitation Committee (VHSC). The VHSCs are village-level bodies comprised of key stakeholders in a village and serve as a forum for village planning and monitoring. VHSCs were formed (1) to ensure that no section of the village community is excluded from services, (2) to prepare a village health plan to suit local realities and necessities, (3) to provide monitoring and oversight to all village health activities; and (4) to ensure that untied funds are appropriately used for improving maternal and neonatal health in the village. There have been few efforts in the health sector that effectively evaluated the relevance and need of community participation to improve health at the village level. The Karnataka Health Promotion Trust (KHPT) carried out a 2-year capacity-

building project to strengthen VHSCs in Bagalkot and Koppal districts during 2009-2011 and attempted an evaluation of project outcomes.

Methods: The evaluation used a before-after comparison design without control. This paper analyses data about the composition of VHSCs at both baseline and end-line, using data from all the 1186 VHSCs in the two districts. This information was collected from a VHSC office bearer at baseline, and from the available records at end-line. This paper also analyses the participation of VHSC members in its activities, comparing responses from three each randomly selected VHSC functionaries and non-functionaries from 150 each randomly selected VHSCs in two districts at baseline and end-line.

Results: Most outcomes have shown significant improvements at the follow-up survey. For instance, there was an 84% increase in VHSC membership, from about 14000 members at baseline to about 26000 members at end line. The proportion of non-functionaries among the members increased from 54% to 64% ($p < 0.01$). Similarly the representation of scheduled caste and scheduled tribe representatives among the non-functionary females has increased from 40% to 44% ($p < 0.01$). The differences are more pronounced with regard to the VHSC activities. For instance, while only 3% of the VHSCs had reported having organized Jansamvada (platform to bring the providers face to face with the community) at baseline, this proportion has increased to 97% at end line. According to the non-functionaries interviewed at end line, 64% had reported that the VHSC had met at least once a month in the past one year, compared with 8% at baseline.

Discussion: The intervention employed a set of resource persons (local men and women, trained in community participation in health) who mentored the VHSCs for two years, focusing largely on the structure and composition of VHSCs as per the guidelines, importance of community participation and monitoring, and the conduct of regular meetings. Activities like Jansamvadas and VHSC meetings where issues of health and quality of services at the village level are discussed increases the transparency and accountability of health systems and results in an increased joint responsibility of community and grassroot health functionaries to fill gaps in the current system. Grassroot community structures such as VHSC provides opportunity for issues of marginalised groups such as scheduled caste and scheduled tribe women to be represented and also bring them within the health service radar.

Competing interests: None declared.

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O25

Arogyashreni: towards creating a replicable model for community monitoring of primary health centers in Karnataka, India

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BMC Proceedings 2012, 6(Suppl 5):O25

Introduction: The National Rural Health Mission (NRHM) has initiated community-based institutions at various levels of the health system e.g. Arogya Raksha Samithi (ARS) and Planning and Monitoring Committee (PMC) at Primary Health Center (PHC) level while the Village Health and Sanitation Committee (VHSC) at the revenue village level. These institutions are intended to create awareness about health services, and to empower communities to demand their entitlements. They are also responsible for

planning and monitoring of public health and sanitation programs based on local needs.

However, some barriers including the asymmetry of information and power among health service personnel and community representatives, inefficient decentralization mechanisms, and excessive bureaucracy hinder the effectiveness of these committees. Thus, the Karnataka experience towards community-based monitoring has unfortunately been ambivalent.

In this context, an innovative community-based monitoring initiative was devised with objectives of (1) making community-based monitoring operational; (2) developing a sense of ownership among community representatives about their PHCs; (3) bridging information gaps among community representatives to help them articulate local problems and begin to look for their solutions; (4) enhancing demand for health services through community engagement; and (5) building a low-cost technology based platform for rapid analysis and dissemination of information generated through community-based monitoring of health services.

Methods: This innovative community-based monitoring of health services initiative has been implemented in all rural PHCs of the Mysore district. A questionnaire with close-ended questions (yes/no type) was devised through a community consultation attended by medical doctors, academicians, and community representatives. This questionnaire containing 79 questions on various aspects of PHC functioning was then installed on a toll-free Interactive Voice Response System (IVRS). Selected VHSC and ARS members were oriented to answer the IVRS-based questionnaire. Any selected community member could answer the questionnaire for their respective PHC.

Responses generated through IVRS-based questionnaire were validated through physical verification and statistical assessment of error. Using this base-line community-based monitoring database, a district-wide ranking of rural PHCs was carried out. The ranks were disseminated among the community as well as to the Department of Health and Family Welfare.

Results: Community representatives responded to the IVRS-based monitoring questionnaire for three consecutive months. Although the medical officers are apprehensive about the community-based monitoring of their PHCs, they concur with the ranks and positions of individual PHCs. Community representatives are interested in monitoring of health services and in working with the PHC staff, provided that the suggested changes are visible to them. Preliminary analysis of the community's responses suggests that presence of good physical infrastructure does not necessarily translate into better service delivery. While the T Narasipura block has the highest density of PHCs in the Mysore district, it ranks lowest among all the blocks in the Mysore district in terms of overall utility of the PHCs.

In two of the PHCs, changes brought due to community monitoring have been documented. The district health officer is interested in using the community-based monitoring information as a tool for reviewing PHC progress under NRHM.

Discussion: This project validates the view that community-based monitoring of health services can be an authentic tool for measuring performance of PHCs and opens up the possibilities to replicate such experiments for other grassroots government institutions as well. The project demonstrates the use of low-cost technology in minimizing data entry/integration issues that adversely affect usability of existing community-based monitoring mechanisms.

The selection of members of VHSCs and ARS for the project was made with the intention to encourage them to bring improvements wherever they can in their role as members of such committees. While positive indications of progress exist, it is too early to conclude that this form of monitoring can also bring sustainable improvements in service delivery at PHCs.

The community-based monitoring and ranking system reports the situation, as it is, without blaming anyone for it. This allowed the monitoring process to evolve into a joint assessment, rather than a community led inspection of the PHC.

Based on these encouraging outcomes, the project aims to target the planning and implementation of activities to be carried out at the PHC level. For this reason, the PMC members shall participate as respondents to the community-based monitoring questionnaire. The advocacy activities of the project will be more focused on need based planning and guaranteeing service delivery in the public health system.

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O26

Scale-up of community action for health: lessons from a realistic evaluation of the *Mitanin* program in Chhattisgarh, India

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Introduction: It has long been argued that health for all is most effectively, democratically, and sustainably facilitated through the presence of community health workers at the grassroots. In India, one of the few acknowledged successes in community programs include the *Mitanin* program of Chhattisgarh designed and maintained at the scale of the entire state of Chhattisgarh. This program served as prototype for creation of the cadre of an accredited social health activist under India's flagship program, the National Rural Health Mission. Typical evaluations of scaled-up interventions like this one examine the population-level health outcomes, placing less emphasis on why any such programs succeed or fail. To fill this gap of knowledge, we undertook the realist evaluation of *Mitanin* program. *Mitanin* refers to a female community health worker.

Methods: We undertook a retrospective realistic evaluation, systematically characterizing the contexts, mechanisms, and outcomes (C-M-O) of community action for health at scale through the *Mitanin* program in Chhattisgarh. Our research drew specifically upon the role of the Chhattisgarh State Health Resource Centre (SHRC) as a technical agency whose genesis and mandate is closely interlinked with the program.

We undertook observations, policy documentary review, in-depth interviews (N = 79), and focus group discussions (N = 51) with policy and program developers, facilitators and trainers at various levels of the health system, with community health workers, and with representatives of civil society. Four researchers did iterative data analysis following the framework method of qualitative data analysis. Based on an initial free list of themes, interview summaries were coded, and then grouped under meta-themes. Meta-themes were then organized into specific mechanism, context and outcome categories.

Results: Chhattisgarh's new statehood in 2000 presented a context of strategic public sector system-building where health and community action were given priority. The creation of SHRC institutionalized a mechanism of plural governance requiring collaboration between a range of public and private stakeholders in funding, selecting, training, and supporting *Mitanins*. This included doctors, bureaucrats, activists, donors, and civil society leaders, combining 'technical' or 'medical-public health' competencies with 'socio-political' empowerment and mobilization. And yet, community action in Chhattisgarh is also shaped by a larger context of tribal alienation and lack of women in statecraft.

A key outcome of efforts by SHRC is the decade-long sustenance of the *Mitanin* program 'through four Directors, two Chief Ministers and three elections'. While women have not yet occupied leadership positions at SHRC, *Mitanins* are pivotal in grassroots action and are in turn, demanding institutional recognition. SHRC has responded with mechanisms of career building and the creation of additional spaces for local health action with *Mitanin* involvement.

Another mechanism has been 'recycling'. SHRC functionaries rarely leave the system. Rather, they rotate across various roles at block, district, state and national levels. This retention contrasts against the waning involvement of established non-governmental organizations, and enhances linkages to local rights-based (tribal, food) campaigns.

Discussion: The SHRC model offers lessons of how large-scale community action in health can be poly-centrally governed. Whereas Chhattisgarh is an exception in that its state health agenda could be formulated afresh, once in place, SHRC mechanisms were intentionally developed at scale requiring both technical and social competencies. Mechanisms were further shaped by the demands of frontline community actors who, over time, gave the programme its unique identity. In the bargain, the engagement of a core group of elite and frontline stakeholders has remained (albeit in different roles and capacities), while relationships with existing community stakeholders in and beyond the health domain have changed.

We therefore recommend that efforts to scale-up community action for health institutionalize broad stakeholdership. Community action efforts require the long-term commitment of leaders to the program, in a

framework of plural governance such that no one individual or group can completely change the course of the program; rather interests and ideas can converge and diverge around mechanisms responsive to outcomes at the community level.

We additionally recommend that the *Mitanin* program engages in a more proactive effort to involve marginalized tribal communities in health action, and encourage women's leadership at the state level.

Competing interests: Authors declare that they have no conflict of interest.

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O27

Addressing participation of women in maternal health care in light of its key knowledge correlates: findings from the Indian Sundarbans

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Introduction: According to the estimates by the World Health Organization (WHO), the reproductive ill health accounts for 33% of the total disease burden in women as compared to 12.3% for men. Despite this significant figure, in many South Asian countries the magnitude of reproductive morbidity has not been adequately defined. Maternal health event provides enough time to take requisite precautions and curative measures, if planned. In this conceptual paper we highlight the need to revisit the term literacy and its impact on maternal health from the angle of knowledge-cum-practice has been highlighted. Not only the ability to read and write but the actual learning has been examined that helps a woman and her households to perceive her illness and her ability to seek health services from the existing system.

Methods: Primary data through case studies on specific maternal deaths as well as on high-risk maternal morbidity for two villages of the South 24 Paraganas district in Indian Sundarbans were collected under the scoping study of the Future Health System, a DFID supported cross-country program on innovative health planning for difficult regions.

We examined the knowledge and understanding of women and their families about their responsibilities in the pre-pregnancy, antenatal and postnatal care using this database. The questionnaire used also captured women's linkage with groups, alliances, and social networks in and around the villages. In addition to this quantitative enumeration under sampled clusters, qualitative tools like focus group discussions with mothers, immediate relations, opinion leaders, and service providers were conducted exploring the issue of actionable knowledge to plan and prepare for healthy pregnancy.

Results: Data have indicated that households with higher quintiles of literacy (60 percent considered as a cut off point) and that possess insignificant social linkages have in many instances failed to appreciate the importance of danger signs, plan and preparations during pregnancy. Households with lower literacy levels as a whole have better responded to the contingency call of maternal health once these are associated with support and information strength through networks and alliances or institutions like self help groups, *para unnayan samitis*, Village Health Sanitation Committees, and *Mahila* (women) committees.

Women's community links were more strongly associated with postnatal care than that with antenatal care. To be precise, the three cases of maternal deaths in the last one year and a case of acute malnutrition in woman concerned have recorded none or negligible linkages with community networks and platforms.

Correspondingly, women having stronger participation in social life too have faced difficulties both during maternal and newborn care. However, in most cases they manage to avoid preventable hazards.

Discussion: Leading data enumerating agencies like the Census of India, National Family Health Survey, Reproductive and Child Health-District Level Health Survey do collect data on literacy but there is still scope to address it from a more 'practical' approach. Knowing, understanding and utilizing the knowledge through existing institutions is something that translates literacy into real power and practice of knowledge.

This paper does not intend to come up with an exhaustive list of criteria upon which proposed revisiting on literacy definition would take place. Rather it calls for rethinking, reviewing, and formulating stronger prerequisites for

addressing literacy from a more qualitative perspective that, in turn, becomes more relevant in understanding realization of maternal health entitlements that existing service delivery could offer.

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O28

Empowering mothers as household health workers

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Introduction: Physical inaccessibility and the lack of awareness have remained major constraints to health service delivery in Arunachal Pradesh. Inadequate trained human resource for health aggravates the situation. Road density in Arunachal Pradesh in 2001 was only 17.3 kilometer per 100 square kilometer of area as against the national average of 82 kilometer. This results in nearly 26.5% of the population living with no road connectivity at all [1]. The health infrastructure development has been slow and service delivery remains highly constrained. This has been aggravated by presence of total of only 700 doctors and 900 nurses, who too are unwilling to serve in remote areas.

The Government of Arunachal Pradesh started the Public Private Partnership (PPP) project as a part of the National Rural Health Mission in 2006 that outsourced the management of one Primary Health Center (PHC) in each of the 16 districts to non-governmental organizations. The one such PHC situated at the Sille in the East Siang district is being managed by the Future Generations Arunachal. A pilot project entitled Mothers' Training was carried out from May 2009 to April, 2011 with the premise that empowering the mothers to take care of their own health has the potential to dramatically improve the health status of the communities in inaccessible parts of Arunachal Pradesh. The idea was to train one woman from each household in the catchment areas of the PHC. Each month, one woman from each of the six main villages in the PHC catchment area was selected and was trained on basic home-based health care for a month. The training method consisted of one-hour talk on health issue everyday and involving the trainees in the works in the PHC the rest of the day.

Methods: The outcome of the above-described project was measured with various health indicators captured at the PHC.

Results: Dramatic improvements in health care indicators, especially those related to health behavior, were noted. Outpatient attendance dropped from 10,543 in 2008 to 6,838 in 2011. Similarly, total antenatal registration dropped from 269 in 2008 to 149 in 2011. However, percentage of pregnant women registering themselves in the antenatal clinics in the first trimester increased from 39.4% in 2008 to 69.1% in 2011. There was also an increase in institutional deliveries from 33.8% in 2008 to 44.9% in 2011. In 2008, 5,742 slides were collected for tests for malarial parasite whereas it was only 2,122 in 2011. No death due to malaria has been reported whereas the disease was a major cause of mortality in the area earlier.

Since posting of qualified personnel in the remote areas has been a major hurdle to health service delivery in Arunachal Pradesh, it is recommended that the existing health facilities like PHCs, the community health centers, and the district hospitals be used as community training centers on health so that they can participate in the health care delivery of the government. This will not only improve the health status of the communities but also imbibe a sense of ownership in the health care process. Since the existing infrastructure and manpower will be utilized, this can be accomplished with minimal additional resource inputs.

Competing interests: Authors declare that they have no conflict of interest.

Funding statement: This abstract draws on a Public Private Partnership project funded by the National Rural Health Mission through the Government of India and the Government of Arunachal Pradesh, with additional funding by the Future Generations, USA for Mothers' Training program.

Reference

1. Arunachal Pradesh Public Works Department, Government of Arunachal Pradesh: 1997.

O29

Community-based health committee initiatives in India: a descriptive analysis of village health sanitation and nutrition committee model

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Introduction: Primary health care approach is aimed at community participation in understanding the health needs of the community. To address the community participation in institutionalized health services in India, Village Health Sanitation and Nutrition Committees (VHSNC) were formed at village level under the National Rural Health Mission (NRHM). About 421,892 VHSNCs have been constituted across the country at the village level. The internal program implementation review mechanism has highlighted the lack of clarity over roles and responsibilities of VHSNCs and has stressed upon a detailed research for better understanding. The study presented in this abstract was conducted during the period March to July 2011 in the three of the eight North Eastern states: Manipur, Meghalaya and Tripura.

Methods: The strata of three districts were selected from Manipur and Meghalaya, and of two districts from Tripura. Furthermore, listing of all VHSNCs in these districts was made along with their village names. Of this list, 10% of VHSNCs were selected based on systematic random sampling method.

A pretested semi-structured interview schedule was used for data collection. The indicators were relating to registers, fund management, community interaction through meetings, interaction with public health institutions, and their experience of importance of VHSNCs. The key informants for the study were the members of the Panchayati Raj Institutions (local elected bodies) and Accredited Social Health Activists (ASHA: female community health workers) who are presidents and member secretaries of VHSNC respectively. The information provided by interviewee was validated through interacting with other members of the VHSNCs. A VHSNC would have about six to seven members. The data validation also included physical verification of registers/records, meeting minutes and schedules at the village.

Results: The VHSNC constitution in the study state generally followed the national guideline. However the norms for establishing VHSNCs were revised as per the state needs. In Manipur, the norm was based on number of ASHAs rather than number of revenue villages. This dilution led to more number of VHSNCs and therefore more grant in terms of resources from the center. For the ease of financial management, all VHSNCs had to have a bank account in the name of the VHSNC. Only 60% of VHSNCs in the Chandel district of Manipur had opened bank accounts. The funds from the bank were withdrawn at one point of time and this was observed mainly among most VHSNCs in Manipur and Meghalaya state. Overall, utilization of funds was found to be good in all VHSNCs studied. However, the grants that were allocated were erratic and this hampered the activities of VHSNCs on ground. Community level monthly meeting is one of the core activity of VHSNC and the results showed that about 84% of VHSNCs in Manipur, 36% in Meghalaya and 68% in Tripura had organized these meetings regularly. To overcome the resource constraint, many VHSNCs had generated funds through voluntary donations. In Manipur, About 11.4% of VHSNCs in the district were engaged in fund generation activities, ranging from INR 3,000 to INR 8,000. The funds were utilized for construction of community toilets, furniture, safe drinking water, health awareness campaigns and cleanliness activities in the village. Lack of orientation about the roles and responsibilities have also been highlighted by all VHSNCs members interviewed.

Discussion: We observed that the states had revised the norms related to constitution of VHSNCs taking into account the geo-politico-social context. As a result the number of VHSNCs varied across the states. Secondly, having a bank account for each of the VHSNCs is an important aspect as it can provide details about the number of VHSNCs and the financial transactions. The major drawback in term of financial management is the lack of

capacities of VHSNC members to produce finance utilization certificates for the money received on an annual basis. VHSNC model is solely driven by active leadership role assumed by the people's representatives at the grassroots level. From this study we also realized that some of the VHSNCs had involved in fundraising activities and other involved in providing safe drinking water. All these activities highlight the people's representatives' sensitization towards health needs of the village. We therefore suggest that grassroots level sensitization as well as capacity-building of the members of the committee is essential in successful functioning of VHSNC model.

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O30

Determinants of functionality and effectiveness of community health workers: results from evaluation of ASHA program in eight Indian states

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Introduction: In 2005, Accredited Social Health Activist (ASHA, a female community health worker), program was launched as part of the National Rural Health Mission (NRHM), a flagship program of the government of India. With 846,809 ASHAs across 31 states and union territories, the program has grown to become the most important facet of the NRHM. The ASHA is a woman selected by the community, who is trained and deployed to function in her own village to improve the health status of the community. However, despite being hailed as the face of the NRHM, several operational issues lack clarity and hinder her functions. These include clarity on her role, expected outcomes, adequacy and quality of training and support systems, and defining her future role.

Methods: The objectives of the evaluation included (1) understanding the evolution of the program, perspectives, and experiences of key stakeholders in specific context; (2) assessing the functionality of ASHA in relation to her effectiveness in bringing health outcomes, and (3) reviewing the quality of key mechanisms that constitute the program.

The evaluation adopted a realistic approach with qualitative and quantitative inputs. Eight states were chosen purposively to yield maximum insight in divergent mechanisms, contexts and outcomes. Within each state, two districts were chosen on criteria of high and moderate performance as ascertained by the state governments. Sample size for each district included: 100 ASHAs, 600 service users, 25 Auxiliary Nurse Midwife (ANMs), 100 Anganawadi workers (AWW), and 100 members from Panchayati Raj (self-governance) institutions from 100 villages. The evaluation was designed to distinguish between functionality (defined as specific tasks carried out by ASHA) and effectiveness (defined as desired change in health behavior or improved access to health service that is measurable).

Results: The ASHA guidelines issued in 2006 outlined three key roles of ASHA; a healthcare facilitator to facilitate access to care, a community level care provider for a limited range of services, and a health activist. The findings show that states studied adapted the guidelines to suit their interpretation of the roles of ASHA and this affected the nature of support and training provided to ASHAs.

Utilization of services provided by ASHAs shows that programmatic emphasis on care for the pregnant women have resulted in 75% of pregnant women across the states receiving services from ASHA, with some divergences. About 75% of the sampled service users received counseling on breastfeeding, but this was 60% for other aspects notably warmth and postpartum care. Service overage for children with any episode of illness in last one month was on an average 70% across states with lowest figures being reported from Bihar and Jharkhand. Evaluation shows that vast majority of ASHAs are functional, irrespective of context, although there is a wide variation in the tasks that she does. However, despite her being 'functional', effectiveness varies depending on systems response or skill sets. Educational qualification did not make a difference to health outcomes, but duration and content of training did.

Discussion: We conclude that for an ASHA to be effective, all three roles are important and complementary in nature. The functionality of ASHAs in one role is clearly linked with better outcomes in other two roles. The evaluation also notes that prioritization of only the link worker function, fails to make

full use of her potential for child survival and further reduces her ability to reach the marginalized communities. Comparing across states, the subjective program theory of the managers emphasized different operating mechanisms and that in turn influenced program outcomes. We recommend that, beyond provision of cash incentives, a greater support should be given to the provision of competency based training, the health rights dimension, an adequate supply of medicines, and mentoring and motivation to ASHAs.

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O31

Engaging traditional, complementary and alternative health providers for essential health service delivery in India: a policy analysis

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Introduction: Efforts to engage traditional, complementary, and alternative (TCA) health providers in the public health workforce are gaining increasing attention in India. Evidence from studies evaluating the efforts to integrate TCA health providers into the formal public health system highlights numerous lacunae in policy and practice. This study was undertaken to diagnose operational and ethical challenges in the implementation of current policies for integration of TCA health providers in order to derive lessons to strengthen integration strategies.

Methods: We used qualitative data collection methods and an interpretive policy analysis approach in three states of India: Kerala, Delhi, and Meghalaya. Health policy documents, including bills, acts, orders, inter-institution communications, and publicly available material on TCA health providers, were examined. We also carried out direct observations of healthcare delivery facilities to map the workings of the health system in each of the study states. In-depth interviews were conducted with a range of stakeholders, including policy elites, health administrators, TCA health providers and allopathic (modern medicine) providers appointed in government health facilities, local traditional healers, community health workers, village elders, opinion leaders, and representatives of community organizations. Interviews explored the stakeholders' experiences and perceptions related to their roles, job responsibilities, and interactions with the various players in the health system. While 73 in-depth interviews were conducted in Kerala and 46 in Meghalaya, data collection is ongoing in Delhi. Further data collection is also planned in Kerala and Meghalaya.

Results: Major hurdles in mainstreaming of TCA health providers in essential health service delivery include absence of, or limited, formal communication and coordination between actors representing different systems of medicine; diverse levels of collegiality, ranging from hostility to harmony; and dissonance between the expectations placed on TC.

A health providers and the amenities provided to them. Further observations included contestations by different strata of actors on validity and reliability of medical evidence from alternative systems; lack of coherence in the range of medical evidence across different systems of medicine; and weak conformance by state to the national policy in certain states, and limited action in communicating policy directives across the systems of medicines. Conflicting loyalties, to systems of medicine, patients, and the public health system, emerged as a key finding in the experiences and perceptions of TCA health providers in one state. Local health traditions implemented through family-based practice, although acknowledged as resonating deeply with the local culture, were found to have little, if any, place in the official health system. These gaps are compounded by the limited opportunities for formal collaborative work across different systems of medicine.

Discussion: Preliminary findings suggest that on the one hand, national policy articulations are not adequately translated into the state context. On the other hand, these articulations leave unresolved larger ethical questions of validity and reliability of evidence, and inter-system coherence that could

more concretely support integration efforts. There is a profound need to understand and amend state-specific health governance processes and institutional capacities, and engender receptivity in mainstream health systems to alternative approaches, for the evolution of a truly integrated workforce for health services in India and other low- and middle-income countries. This may require institutionalizing incentives and opportunities for routine interaction between practitioners across systems of medicine in training, and ideally, in practice.

Competing interests: Members of the research team for this study included allopathic (modern medicine) and homoeopathic doctors.

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O32

Nurturing nursing in India: need for governance reform

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Introduction: Recent Universal Health Coverage recommendations in India have been developed on the presumption of a principal role of nurses as the backbone of public health services. Yet this sector faces a distinct and formidable set of challenges. Underproduction and migration underpin shortages in the number of nurses per capita. The quality of nursing care is hampered by poor standards of education. Nurses also face tribulations in the form of discrimination, harassment and subordination (to doctors) in the health administration. The solutions for these interwoven challenges are located in more effective governance of the nursing sector.

Methods: We undertook a review of the literature to characterize the state of nursing governance in India, and identify the challenges for effective governance. Keyword searches were conducted on academic search engines and websites of internet booksellers for peer-reviewed literature, and on general search engines for relevant research reports, case studies and commentaries, supplemented by physical search for sources in the library of the Public Health Foundation of India. The resulting index of books, articles and academic material was organized by theme, and the literature review was written up in essay style.

Findings: The challenges to effective governance of nursing identified include a span of structural, operational and political factors. Notable among these are the lack of a well-articulated policy framework for human resource development and management for nursing in the government sector. As the largest human resource pool within the health system, the nursing cadre necessitates institutional arrangements for effective supervision, skill development and career advancement, which are inadequate or absent in most states and at national level.

Typifying these administrative failures is the absence of a focal body for nursing governance in the Ministry of Health & Family Welfare and poor representation of nurses in key decision-making offices. The capacity of public services to retain and support nurses is constrained variously by poor working conditions and outdated personnel remuneration and norms. These challenges are also mirrored in the private sector, where they are amplified by the absence of credible regulation of either the performance of, or welfare measures for nurses in employ. Finally, effective professional governance, through nursing councils, is thwarted by weak institutional arrangements, antiquated laws, insufficient representation of midwives in the national council, conflicted relationships between state and national councils, and the dominating influence of medical professional bodies.

Discussion: Even as more effective governance is required to address the triple challenge of nursing adequacy, workforce and welfare, systems for governance of nursing in India face several challenges, partly reflecting those confronting the sector at large. This suggests that multipronged reforms to the architecture of nursing governance are warranted before implementing wider sectoral reforms. World Health Organization's conceptual framework for equitable access to quality nursing and midwifery care presents a credible framework for the adoption of governance reforms. The framework identifies three pillars of nursing governance, i.e. policy and planning, education and development, and deployment and utilization, respectively denoting the institutions that need to be strengthened and developed.

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The relative paucity of systematic knowledge on shortfalls in nursing governance is also remarkable, which highlights the need for further research. In particular, empirical analyses of the architecture and performance of governing institutions can help to identify specific targets and priorities for governance reform.

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O33

Strengthening support mechanisms for Accredited Social Health Activists in order to improve home-based newborn care in Uttar Pradesh, India

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Introduction: Accredited Social Health Activists (ASHAs) are female frontline health workers that provide critical antenatal and postnatal support to mothers and newborns for over five million deliveries in Uttar Pradesh every year. Performance reviews of ASHAs showed that even after initial training, the quality and the numbers of home visits made by ASHA were inadequate. ASHAs lacked interpersonal communication and counseling skills to effectively negotiate behavior change for home-based newborn care. The health system lacked mechanisms for continued learning and periodic upgrading of their skills and knowledge. Post-training, ASHAs were not being adequately supervised.

Methods: The *Vistaar* project implemented by the IntraHealth Inc. worked with district health officials in five districts of Uttar Pradesh to create an alternative arrangement within the existing system for ongoing capacity building and supportive supervision of ASHAs. The monthly meetings of ASHAs were restructured, leading to more meetings but with smaller number of ASHAs (30-50 ASHAs at a time) on fixed days.

Structured content was developed for two-hour capacity building sessions covering IPC skills, delivering critical newborn care messages, use of job aids, planning home visits and organizing community meetings.

Facilitators at block level were identified from the health teams and were trained in the use of participatory methods and facilitation skills. They were assigned to facilitate capacity-building sessions during ASHA monthly meetings covering nearly 10,000 ASHAs every month. Auxiliary Nurse Midwives (ANMs) were trained on supportive supervision and were guided to enhance interactions with ASHAs including review of their performance and problem solving.

Technical Resource Groups were developed in districts for planning, implementation, and monitoring of the performance management support to ASHAs and ANMs. An end of project evaluation was carried out by an external agency.

Results: ASHAs made home visits to 40% of all recently delivered women. Nearly 90% of recently delivered women reported first newborn checkups conducted by doctors and ANMs at the time of delivery at the healthcare facility. Compared to project baseline, a significant increase was reported in the second newborn care visit (20.6% to 60.3%) and the third visit (8.1% to 39.9%) by ASHAs. Recently delivered women were able to recall newborn care messages given by ASHAs during antenatal care visits including, initiating immediate breastfeeding within one hour of birth, exclusive breastfeeding up to six months, newborn immunizations, and benefits of colostrum feeding. Messaging on keeping newborns warm, delaying bathing for seven days and not applying anything to the cord need further improvement.

Breastfeeding within one hour of birth improved from 10% at baseline to 27.4% in the endline. Colostrum feeding showed a 22% improvement over the baseline to reach 79%. Capacity building sessions have been held in 93% of ASHA monthly meetings. ASHA attendance has improved significantly at 74 % in March 2012 compared to 48% in September 2009.

Discussion: Ongoing capacity-building to periodically upgrade knowledge and skills of ASHAs is critical to building their confidence and translating technical knowledge into practice during home visits. Increased contacts and improved message delivery by ASHAs contribute to change in newborn care practices. Monthly meetings with about 30 to 50 ASHAs at a time

provide an effective forum for ongoing capacity building and supportive supervision. Training facilitators in participatory methods and facilitation skills helps to use experience sharing by ASHAs for problem solving and peer learning. Providing supervisory skills and tools to ANMs can address essential support needs of ASHAs. Furthermore, interaction between ANMs and ASHAs during Village Health Nutrition Days provides an opportunity for one-on-one engagement and supervisory support. Working collaboratively with the government to utilize existing opportunities and restructure existing forums contributes to easier buy-in and system strengthening for sustaining the interventions beyond the project duration. It minimizes the cost of the effort mainly limiting it to the cost of staff time.

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POSTER PRESENTATIONS

P1

Public health advocacy to reinstate reproductive rights of Particularly Vulnerable Tribal Groups (PTGs) in Chhattisgarh

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Introduction: Baigas, Pahari Korwas, Abujhmaris, Birhors and Kamars have been designated as Particularly Vulnerable Tribal Groups (PTGs) in Chhattisgarh. These communities face high levels of poverty, malnutrition, and limited access to health and nutrition services, manifested in high mortality rates. As a strategy for curtailing the once decreasing population of PTGs after 1979, Madhya Pradesh/Chhattisgarh state government restricted sterilisation among these tribal groups, attempting an increase in birth rate rather than a decrease in the mortality rate.

Today, PTGs, unable to cope with their poverty and large families, are demanding the right to choose their family size and gain access to family planning services. Public Health Resource Network (PHRN) and State Health Resource Centre, Chhattisgarh (SHRC) along with local organisations are attempting to impact policy on this issue through evidence building, community mobilisation and media advocacy.

Methods: We surveyed 1200 households of Baiga, Pahari Korwa and Kamar communities in Kawardha, Sarguja and Gariaband districts of Chhattisgarh to understand access of PTGs to health and nutrition services, status of their livelihoods, ownership of resources, and land tenure under Forest Rights Act. We organised meetings (*sammelans*) of PTG communities and PTG Mitans (community health workers) at the block level to present study findings, case studies and facilitate articulation of demands by the PTG community members in the presence of government officials and media. We also examined the 1979 government order related to sterilisations among PTGs. We organised advocacy on the issues that emerged through the study and the *sammelan* through mass media. Advocacy for policy change was undertaken using the emerging evidence and demands of the community.

Results: We found that the access of PTG families to various health services is limited. Only 32% of the PTG families interviewed had received *Rashtriya Swasthya Bima Yojana* cards (RSBY – an insurance programme for people below poverty line). Of these, only 4% had used the card though 85% were *Antyodaya* beneficiaries. We also found that in only 6% of the families, women obtained financial incentives under the *Janani Suraksha Yojana* scheme.

We shared the study findings during the *sammelans* and the PTGs demanded access to permanent family planning methods, expressing their inability to sustain large families in their current state of impoverishment. Many women had undergone permanent sterilisation under a false name or caste. The administrators including district Collectors, block officials and health department personnel were sensitised towards the plight of the PTGs and their demands.

The order of 1979 of the Government of Madhya Pradesh related to sterilisations for PTGs was not available at the state level and was finally accessed at the district. Analysis of the order showed that the order itself did not propose a 'ban' on permanent sterilisations for PTGs. It had been interpreted and operationalised as a ban, which continues till today.

The findings were shared with media. They took up this issue in a big way and many newspapers published follow-up investigative reports after visiting various PTG communities. Based on this, SHRC Chhattisgarh formally wrote to the director of health services of Chhattisgarh to revoke this order.

Discussion: PTGs are one of the most impoverished of tribal communities whose traditional livelihoods have been destroyed. Though the issues of health and nutrition are very severe among these groups, they are the ones with least access to health and nutrition services, manifested in high malnutrition and mortality rates. In such a situation, the negative implications of the 'ban' on sterilisation, on their lives are enormous.

Denial of access to family planning services and of the right to choose one's family size is a denial of basic human right and therefore has to be corrected at the earliest. It has to go hand-in-hand with interventions to improve their livelihoods, reduce malnutrition and improve their access to nutrition and health schemes and basic health services. Organisations of PTGs themselves should be empowered to put forward these demands and participate in planning and monitoring initiatives meant for them. This process has started in the blocks where this initiative took place and gradually a consensus is building up within the government in Chhattisgarh on revoking the order and reinstating the reproductive rights of the PTGs.

Competing interests: Authors declare that they have no conflict of interest.

Funding statement: The study and the *sammelans* were funded under the Chhattisgarh National Rural Health Mission Programme Implementation Plan 2011-12 under the initiative for vulnerable groups.

P2

Strengthening training and supervisory systems to improve Skilled Birth Assistance in Jharkhand, India

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BMC Proceedings 2012, 6(Suppl 5):P2

Introduction: Jharkhand has a maternal mortality ratio of 312 maternal deaths for every 100,000 deliveries, higher than the national average of 254 maternal deaths for every 100,000 deliveries. Only 47% of the deliveries in Jharkhand are attended by a skilled birth attendant, as opposed to the national average 76% of deliveries in India, which have skilled birth attendance. There is a shortage of skilled birth attendants (SBAs) in Jharkhand. In addition, many auxiliary nurse-midwives (ANMs) have limited knowledge of pregnancy- and delivery-related complications and did not consider conducting deliveries a top job responsibility. Health subcentres lack the basic infrastructure and drugs needed by ANMs for delivery care. Most ANMs received no performance feedback and had limited support from their supervisors.

Methods: We compare the outputs measured in January 2012 to the baseline (November 2008). We describe the intervention, its outputs and the lessons learned.

We aimed at strengthening training and supervision systems in 14 districts of Jharkhand using the following approaches, with a focus on institutionalising these into the system.

1. Use of appropriate criteria to create a pool of trainers
2. Building the capacity of trainers to provide participatory training
3. Selection of training sites based on caseload and use of a checklist to improve readiness of the site
4. Health subcentre strengthening by ensuring availability of equipment and supplies to SBAs
5. Certification of SBAs based on a minimum 80% post-test score and hands-on clinical practice
6. Rotational posting of trained SBAs at higher level health facilities to ensure skill retention
7. Medical Officers oriented on supportive supervision and tracking SBA performance using a checklist

8. Non-financial reward and recognition system to motivate well-performing SBAs

Results: As of March 2012, 1482 SBA had been trained in 14 districts of Jharkhand with technical support from the *Vistaar* project. We have found that the newly trained SBAs conduct more institutional deliveries and provide services that adhere to standard guidelines when compared to the baseline (November 2008). In Deoghar district, the average number of institutional deliveries conducted by SBAs in the past 6 months increased from an average of 8.7 to 33.0 among SBAs who provide services at subcentres. Active management of third stage of labour including all three components - administering misoprostol, controlled cord traction and uterine massage - was non-existent during the baseline. However, nearly 97.8% of SBAs now adhere to it as a standard practice. Essential newborn care services such as early initiation of breastfeeding within an hour of birth increased from 58.0% to 95.7% of all newborns and drying and wrapping the baby to prevent hypothermia increased from 52.2% to 96.7% of all newborns.

Discussion: Increasing skilled attendance at birth is a national priority. Despite the existence of national guidelines on training, the operationalisation of the SBA training program has remained a challenge for many state governments in India. Our project's successful experience indicates that:

1. Utilizing government staff as trainers and strengthening training systems results in better training quality
2. Regular supervisory interaction for review of performance and feedback is critical for improved performance
3. High quality training and post training support with systematic tools are key for training to result in improved worker performance
4. Important to ensure state-level leadership and regular review of progress and infrastructural readiness for trained SBAs to practice new skills and gain confidence

Competing interests: Authors declare that they have no conflict of interest.

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P3

Public Private Partnership in Meghalaya: delivering healthcare in difficult to access tribal areas

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BMC Proceedings 2012, 6(Suppl 5):P3

Introduction: Meghalaya, a hilly tribal state in northeast India, has many inaccessible areas with little or no access to good quality health services. With an infant mortality rate (IMR) of 58 infant deaths per 1000 live births, an institutional delivery proportion of 29.7% of all deliveries, a full immunization coverage rate of 32.8%, and a total fertility rate of 3.8, Meghalaya has some of the poorest health indicators in the country. Faced with challenges of attracting and retaining skilled health workers in these remote settings, the state adopted a Public Private Partnership (PPP) approach in 2008. The approach involves handing over the management and operations of 29 poorly performing community health centres (CHC), primary health centres (PHC) and subcentres located in difficult areas to non-governmental organisations (NGO), through a memorandum of understanding. We conducted this study to assess the effectiveness of this approach with respect to increasing access to essential healthcare services.

Methods: We included all the 32 health facilities managed by the six NGOs (2 CHCs, 19 PHCs, 10 SCs and 1 dispensary) in the study. The study was conducted from November 2011 to January 2012. We used a mix of both quantitative and qualitative tools. We conducted a desk review of records and reports to assess performance of facilities. We supplemented this with observations made during facility visits to assess infrastructure development and maintenance, and human resources development. Focus group discussions were organized to assess community perceptions with respect to the village health committees and Accredited Social Health Activist (ASHA) programme. A pre-tested questionnaire was administered to service providers and a sample of beneficiaries.

Results: We found improvement of most of the facilities and the functioning of the health centres in terms of service delivery following the

takeover by NGOs. Improvements took the form of infrastructural corrections, better maintenance of buildings, improved staff availability, and better supply of essential drugs and equipment.

Since these facilities were performing near zero at the time of outsourcing management, the first major improvement is the recorded increase in outpatient care in all facilities and in-patient care in the CHCs. In the 21 health centres (2 CHC/19 PHC) of the 32 institutions we studied, every month 19362 outpatients and 907 inpatients were recorded. Antenatal coverage improved in 18 of the 19 PHCs and two CHCs with an average of three to four deliveries per facility per month. Immunization sessions are being held regularly and number of fully immunized children has steadily increased. The main gaps were in skills of the providers and therefore, the quality of care. This was mainly due to lack of access to training programmes for the service providers.

Discussion: With better management under PPP, previously non-operational health facilities located in difficult-to-access and underserved areas can deliver health care services. What helps the NGO succeed where the earlier system fails is a more flexible approach in recruitment, good leadership, building a supportive positive practice environment ensuring the retention of human resources.

If contracting-out management of health facilities in difficult-to-access areas is done in isolation from other state support functions, then the outcomes are limited. The State needs to supplement the facility level efforts with smooth flow of funds, need-based training programs, regular supply of drugs and logistics, and monitoring and support mechanisms. The state would also need to devise and implement incentive package for retention of key staff in these difficult and inaccessible areas.

The PHCs are being managed at a cost of around INR 2,200,000 per annum, which is the same as that spent on a regular PHC. The management requires support to be able to assess and manage the health of populations they serve, in addition to provision of healthcare services to those who come to the facility.

Competing interests: None declared

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P4

Determinants of patient satisfaction in public hospitals and their remedialities

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BMC Proceedings 2012, 6(Suppl 5):P4

Introduction: Quality in healthcare consists of two aspects. While technical quality primarily deals with accuracy of diagnosis and procedures and adherence to clinical protocols, service quality refers to the manner in which the healthcare services are delivered to patients. Since patients are often unable to accurately assess the technical quality of care, functional/service quality is usually the primary determinant of patients' perceptions of quality. This study tries to crystallise 'critical to quality' attributes of services from an ideal list of what should be there. We also explored the possible solutions for these issues that can be implemented in public health facilities.

Methods: We developed questionnaires to assess patient satisfaction after understanding the 'Voice of Customer' (VOC) through field visits, interviews with patients and service providers and focus group discussions. Attributes distilled though VOC were arranged in an Ishikawa Diagram and converted into a 10-point questionnaire for outpatient and 20-point questionnaire for inpatient services. Patient perception was measured on a five-point Likert scale ranging from poor to excellent. We obtained feedback on this questionnaire on a quarterly basis from a sample size calculated for 95% confidence level. Data were analysed and lowest two indicators were identified for root-cause analysis and developing of an action plan. Data were further analysed on analytical hierarchy process model by pair-wise comparison to find out Critical to Quality (CTQs) factors. Relative weightage of CTQs were then analysed through Pareto analysis.

Results: Data analysis of patient satisfaction survey across 9 district hospitals of Bihar shows that patients are most dissatisfied with non-availability of

drugs and quantum of consultation time for outpatient care, while for inpatients, cleanliness of toilets mattered most. At the same time, non-availability of drugs is also the most dissatisfying factor for inpatients. Further, it emerges through pareto analysis that enhancement in patients' satisfaction by more than 60% could be achieved by addressing top three attributes of dissatisfaction. Finally on Kano mode, non-availability of drugs and perception of not getting enough consultation time are 'dissatisfiers'; cleanliness, ready availability of diagnostic services and prolonged waiting times as 'performers'. Nice and courteous behaviour of staff of public hospitals are the 'delighter' for the patients.

Discussion: Services unlike products are produced and consumed at the same time. This characteristic increases the importance of the care provider-patient relationship as well highlights potential for variation in service quality. With the advent of rights-based approach in health, patients are no more to be treated as targets or beneficiaries. They are customers or right seekers; service providers should try to meet their expectations. Patient satisfaction survey is one tool to measure, whether hospital services are meeting patients' expectation or not. Patient satisfaction survey is an integral part of quality management system developed by the National Health Systems Resource Centre for public hospitals. These surveys help in improving the service quality if service providers can focus on the results of the surveys, which are critical to patients and plan their services accordingly. Quality function deployment is one such tool that can be used for planning and implementing solutions.

Competing interests: None declared.

Funding statement: None declared.

P5

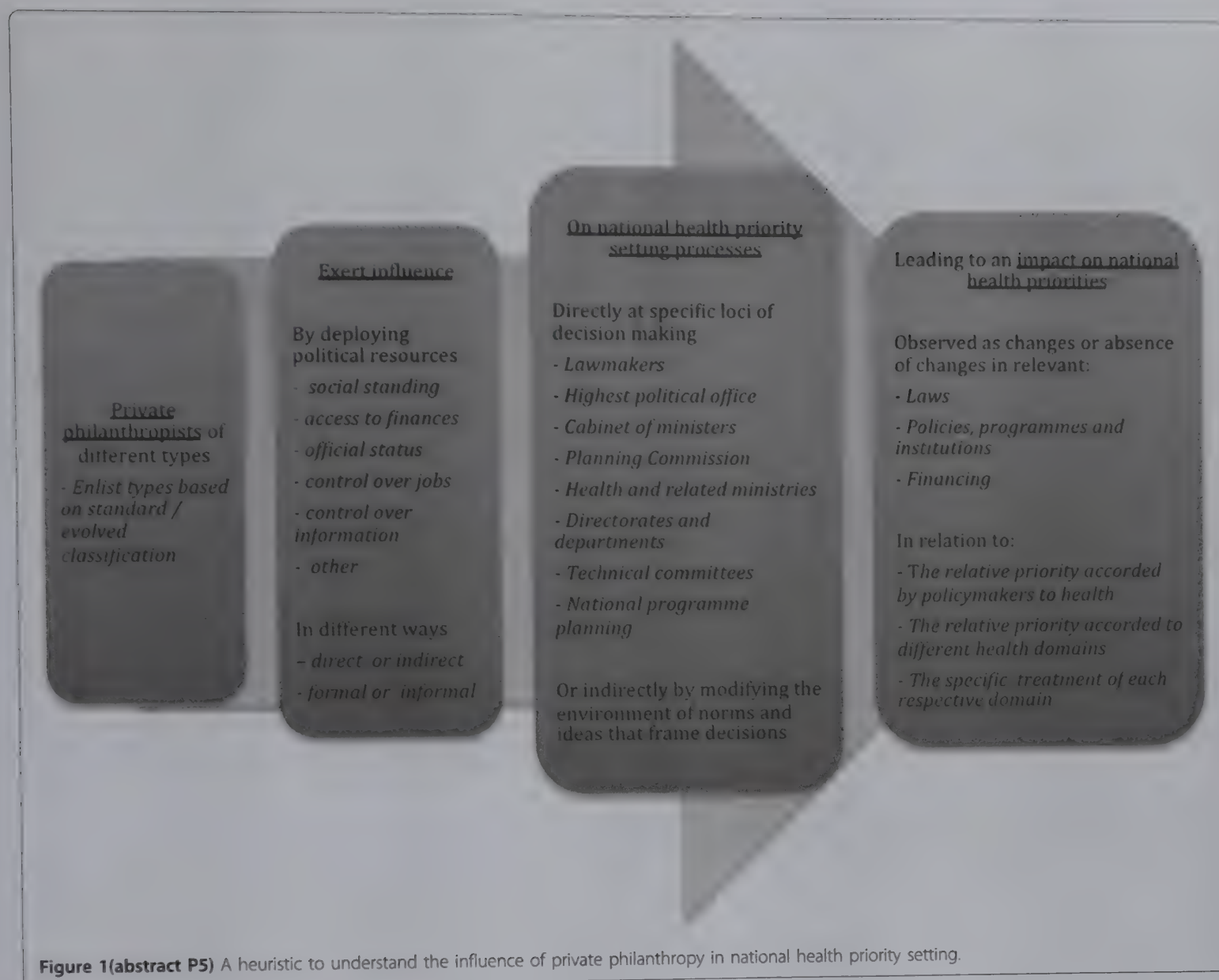
Does 'giving' influence governance? Application of a framework describing the role of private philanthropy in Indian national health priority setting

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BMC Proceedings 2012, 6(Suppl 5):P5

Introduction: Even as philanthropy has played a role in financing public health for centuries, the past few years have seen a significantly increased investment in the health sector in low- and middle-income (LMIC) settings through the interventions of large private philanthropic organizations. This change has been accompanied by widespread tacit approbation in the community of beneficiary academicians and institutions and, some limited examination and criticism of the role that these stakeholders have played in influencing health priorities within nations. The critical voice is important, but has been limited by the lack of a framework to examine the many variables that make up this continuum of influence.

Methods: Based on reviews of scholarly literature on aid and health, power in health policy, and national health priority setting, we evolved a heuristic to understand the influence of private philanthropy in national health priority setting. The heuristic considers the properties of private philanthropy, categorizes the ways in which political resources are deployed (through direct vs. indirect, formal vs. informal mechanisms), and summarizes how influence may affect (a) the relative priority given to health vs. other domains, (b) across health domains, and (c) within a single domain of health. Drawing upon analysis of existing literature and secondary data from publicly available information, this heuristic was applied to develop case studies of two long-standing private philanthropies in India: the Sir Ratan Tata Trust (SRTT) and the Rockefeller Foundation (RF).

Results: In applying our heuristic, we found that SRTT, a 93-year old family trust has, throughout its existence, encapsulated Jamsedji Tata's vision of supporting "the most gifted, so as to make them of greatest service to the country." Its chairman has legitimized the role of business leaders in the health domain, while the trust has prioritized rural and tribal health, mental health and disability, human resources and facilities upgradation, among other issues that have historically been under-prioritized in Indian health policymaking. As per Jamsedji's motto, SRTT's support is indirect: it funds recognised individual and organisations active in health policymaking with a community health orientation. RF was established in 1913 "to promote the well being of humanity around the world". RF support for hookworm control in post-independence India



accorded priority to the health sector, putting this otherwise unknown disease onto the country's health agenda. It also directly promoted a vertical, technological approach to disease control, including India in its international agenda to demonstrate the efficacy of its 'cure'. This set a precedent for its funding-driven involvement in vertical health policy planning in India. More recently, moreover, RF has used its position of influence to directly support health systems strengthening in India.

Discussion: The peculiar histories and financial arrangements of each foundation belied functional categorisation; this was a challenge in applying our heuristic. However, we could identify specific approaches adopted by foundations to influence Indian health priority setting. We found that SRTT's influence is intended to fill gaps left by the public system and as such, does not directly engage with it. The foundation does provide support to established civil society actors so that they may influence policymaking.

In contrast to SRTT, RF has directly funded single disease technological initiatives, making them priorities on India's health agenda. More recently, RF has directly supported health systems agenda-setting activities and research related to universal health coverage.

Our study shows that giving can influence governance directly and indirectly in the priority accorded to health, the prioritization of topics within health, and models of funding in health. The context of SRTT may well be different from that of other private players in the large and growing ecosystem of giving in India.

Further application of this heuristic may enable comparison of the influence of private players we studied as well as the role other players (diaspora foundations, religious charities, as well as national and

transnational corporate social responsibility platforms) have in priority setting.

Competing interests: Authors declare that they have no conflict of interest.

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P6

Socioeconomic differentials of neonatal mortality in Northern Karnataka: implications

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BMC Proceedings 2012, **6**(Suppl 5):P6

Introduction: Reduction of neonatal mortality from the current levels of 29 neonatal deaths per 1000 live births to 21 per 1000 live births is one of the major goals of the National Rural Health Mission (NRHM) in Karnataka. Strategic focus on geographies and sub-populations within the state where neonatal mortality is the highest will enhance the speed and magnitude of its reduction. A recently completed household survey in the eight districts of north Karnataka (Bagalkot, Bellary, Bidar, Bijapur, Gulbarga, Koppal, Raichur and Yadgir) conducted by project *Sukshema* provides an opportunity to examine the sub-population differentials in neonatal mortality. The *Sukshema* project supports the government of

Karnataka through the development and adoption of effective operational and health system approaches within the NRHM.

Methods: We conducted a survey using two-stage systematic stratified sampling. In the first stage, 167 villages were sampled using probability proportion to population size method. In the second stage, 30 households with currently married woman age 15-34 years were selected systematically with equal probability and without replacement - an equal number of scheduled caste/tribe (SC/ST) population and non-SC/ST households, based on the household listing in the selected villages. During the household interviews, the respondents were asked for details of deaths in the household since January 2009. A total of 4972 households were interviewed with a response rate of 99%. The infant and neonatal mortality rates were computed separately for the SC/ST and non-SC/ST samples based on the births since January 2009.

Results: While the estimated infant mortality rates are somewhat similar in the two groups (62 and 58 per 1000 live births among the SC/ST and non-SC/ST groups respectively), the neonatal mortality is substantially higher among the SC/ST group (49 compared to 39 per 1000 live births). Preliminary analyses indicates that most of these differences in neonatal mortality are due to the differential nutritional status during pregnancy, differential rates in home deliveries, differential quality of care during delivery and immediate postpartum period due to the choice of facilities for delivery (public vs. private).

Discussion: Caste differentials in neonatal mortality strongly indicate the need to focus on the nutritional status of SC/ST women in general and during pregnancy in particular, facilitating institutional deliveries and improving the quality of care during delivery and immediate postpartum period in public facilities.

Competing interests: None declared

Funding statement: The study was funded by the Bill and Melinda Gates Foundation.

P7

A qualitative exploration of factors influencing site of delivery (home, public or private hospital) in three North Karnataka districts as described by pregnant women, mothers of neonates, husbands and grandmothers

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BMC Proceedings 2012, **6**(Suppl 5):P7

Introduction: The National Rural Health Mission (NRHM) aims to increase the uptake of safe institutional delivery among rural communities in Karnataka. Previous studies in India have found that while there has been increasing numbers of institutional deliveries, those who had lower socio-economic status, were from scheduled caste (SC), or had less education or media exposure were less likely to use hospitals for delivery. A few studies on quality of care consistently found a more positive perception and experience at private hospitals. The purpose of this study was to explore the factors influencing choice of birthing site, specifically home, public and private hospitals, and the decision-making processes involved in the choice, in North Karnataka.

Methods: In the context of the Karnataka Health Promotion Trust's (KHPT) maternal, neonatal and child health (MNCH) program, 112 qualitative interviews were conducted among pregnant women, mothers of neonates (≤ 30 days), grandmothers and husbands in three North Karnataka districts: Bagalkot, Bellary and Gulbarga. Local residents with previous research experience were hired and trained to conduct the interviews. Interviews were completed between October and December 2010. Interviews were conducted in local languages and then translated to Kannada and English for analysis. Thematic analysis was undertaken in which codes were identified through review of transcripts and categories were created based on the codes. Comparative analysis was completed looking for similarities and differences in experiences, perceptions and decision-making by birthing site, participant type, district and sociodemographic characteristics. Ethics approval was obtained from St. John's College, Bangalore and the University of Manitoba Human Research Ethics Board, Winnipeg, Canada.

Results: Of the 112 participants just over half were living below the poverty line (54%), belonged to scheduled caste (42%), and were uneducated (55%).

A greater proportion of pregnant women and grandmothers were uneducated and below poverty than the new mothers and husbands. While some participants indicated that hospital delivery is becoming more favoured among the younger generation, others described many factors that dissuaded them from institutional delivery. First, some perceived or experienced poor quality of care and poorly equipped and unclean facilities, particularly at public hospitals. In addition, some participants reported having to pay for supplies and/or schemes at public hospitals. While private hospitals, in general, were seen as delivering high quality services some cited the high cost for private hospital delivery as prohibitive. Having a 'normal' delivery was highly valued among all participants, therefore many participants offered that the common practice of performing Caesarean sections and assisted deliveries at both public and private hospitals was a concern and factored into their decisions about delivery site. Practices associated with 'normal' birth, such as hot water, dietary preferences were more likely to be available at private versus public hospitals. However, some preferred practices that were available at home births were not available at either hospital type. Finally, though some received the benefits of incentive schemes or aid from Accredited Social Health Activists (ASHA), many others did not.

Discussion: The perceptions of poor quality of care and facilities at government institutions in north Karnataka among the study respondents appears to play a significant role in discouraging public institutional delivery; the influence of these perceptions is perhaps even more than actual experience of. This indicates a need to address negative perceptions and actual quality of hospital care, particularly that of government hospitals in poor areas. In addition, perceptions of institutional delivery may be improved by reducing the number of medically unnecessary C-sections, as well as ensuring consistent coverage by schemes and comprehensive outreach to marginalised communities by ASHAs.

Competing interests: None declared.

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P8

Business models of public private partnerships in publicly-financed emergency response services

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BMC Proceedings 2012, **6**(Suppl 5):P8

Introduction: The last six years of India's National Rural Health Mission (NRHM) has witnessed the emergence of a wide variety of public funded, privately managed ambulance services across the states. Today there are over 3850 government financed emergency response ambulances and another 3000 are just about to start up, whereas just five years ago there were almost none. States have chosen different models for emergency response systems with varying levels of investments and effectiveness.

Methods: The objective of this study was to analyse the three different business models of emergency response services (ERS) that have evolved under NRHM across the country. We conducted document analysis to understand the various types of publicly-financed partnership models across the country. Based on this, three distinct business models of public-private partnership in ERS were identified. To further understand the three business models, three separate case studies in states where they are most mature in terms of design, number of years of running, continuity and efficiency of management.

The three business models we studied are (a) Dial 108; (b) Haryana Swasthya Vahan Sewa (HSVS); and (c) Janani Express. Dial 108 was studied at its most mature site, Andhra Pradesh. We chose three districts in Andhra Pradesh, each from one of the three different geographical regions: coastal, Rayalaseema, and Telengana regions. We collected qualitative data and secondary data in these three districts. HSVS model is a district model with assured referral transport for pregnancy as primary focus, and emergency response as secondary. Of the three states, which have opted for this approach (Haryana, Jharkhand and Chhattisgarh), we studied the model in the more mature and established amongst the three states,

Haryana. This model was studied in three districts of Haryana, one each from north, south and west-central regions of the state. Janani express, a local partnership-based model of assured referral transport, we studied the programme in Nabrangpur, where the model had matured and developed to its best through a considerable local innovation and adaptation with a continuity of local leadership.

The study compares the strengths and weaknesses of each of these models in terms of (1) coverage, timeliness, prioritization and quality of emergency response; (2) provision of assured cashless transport for pregnant-women and sick-newborns; (3) costs and sustainability of the models; (4) equity of access to these services; and (5) outcomes with respect to the rest of the emergency healthcare chain. Based on the analysis of these models, the possible roadmap to ERS in the country and the principles of design that could be used to improve the efficiency and effectiveness of each model for the coming five year plan period is also laid down.

Results and discussion: This study was used by the Ministry of Health and Family Welfare of the Indian government to re-define its financing policy, giving states greater ownership and risk, leading to improved financing and efficiency. We find that there is a need for a more sound financing policy, caution against a provider monopoly and note that a disproportionate attention to rescue without sufficient attention to the rest of the emergency management provision is counter-productive. Legal challenges to existing policies of procurement also referred to evidence from NHSRC studies. Subsequently, eight more states adopted a more competitive approach to procurement and financing. More new players entered the ERS market. Alternate models have also emerged. Comparison across models in the second-generation studies provided inputs into strengths and limitations of each and helped improve designs. This mechanism of evaluation and feedback is essential to ensure constant improvements in effectiveness, efficiency and governance of such a massive public health effort.

Competing interests: None declared.

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P9

Pharmaceutical regulations in India: the missing links

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BMC Proceedings 2012, 6(Suppl 5):P9

Introduction: Modern pharmaceutical industry in India emerged in the 1900s and with that regulation of pharmaceuticals also evolved. The reforms of the 90s while improving the exports, also brought in improved standards of quality to be followed in the entire supply chain of drugs. While for the manufacturers it meant documentation, increased expenditure, and more export opportunities, for the consumer it has resulted in improved drugs, as the public health system also started emphasizing on selecting only those manufacturers with quality standards. However, governance and enforcement mechanisms have to improve to benefit the consumers and the entire healthcare system.

Methods: Based on a review of literature on pharmaceutical regulations governing manufacturing standards, pharmacy education, and drug prices, this paper discusses the positive outcome of certain regulations and points out where explicit policy focus is needed. Specifically, the paper discusses (a) the positive outcomes of implementing good manufacturing practices (GMP) that has improved the standards of production; (b) the need for aggressive pharmacovigilance practices to enhance awareness on adverse drug reaction; (c) the need to integrate the pharmacy education with the needs of the health systems which functions with far minimal trained human resources particularly in the preventive health care; and (d) the impact of issues related to the drug price control orders on the consumers.

Results and discussion: Modern pharmaceutical industry in India emerged in the 1900s. Regulation of pharmaceuticals also emerged with the industry. The ultimatum given to the industry to adhere to the schedule M implementation has resulted in improving the standards of medicines produced. While the industry-centric regulations emphasize on quality, little attention is paid particularly to the pharmacovigilance practices to systematically document the adverse drug reactions. The

pharmacy education in India has an industry bias. Every year, because of the spate of permissions for pharmacy colleges from the All India Council of Technical Education, pharmacists are churned out in thousands in the country. However, they do not find jobs in the industry. If the pharmacy education is oriented towards community pharmacy or hospital pharmacy, the human resources shortfall in the preventive health care could be improved.

The Drug Price Control Order presently covers only 75 essential drugs and leaves out the new innovator drugs and the biotechnology based drugs, which are prohibitively expensive. While manufacturers wriggle out of price control by producing combinations so that they do not come under the purview of price control, consumers are inundated with irrational combination that push up the cost of treatment but delays the course of treatment.

The Drugs and Cosmetics Act needs to be revamped taking into consideration the changing industrial scenario. While manufacturers wriggle out of price control by producing combinations so that they do not come under the purview of price control, consumers are inundated with irrational combinations that push up the cost of treatment but delay the course of treatment. Pharmaceutical governance can be vastly improved if the regulatory authorities have more manpower with them.

In India generic drugs are sold in brand names, which push up the cost of treatment as doctors prescribe branded generics. Instead if drugs are sold in generic names, the cost could be contained. The bureaucratic bottlenecks particularly at the state level that delays the spread of *Jan-Aushadhi* stores need to be addressed.

The curriculum of pharmacy education should be revised thoroughly. Pharmacy education in India should include courses like community/hospital pharmacy, where the pharmacist actually assists the doctor in choosing the right medicine after analyzing patients' case history.

Competing interests: None declared.

Funding statement: None declared.

P10

Utilization of comprehensive health insurance scheme, Kerala: a comparative study of insured and uninsured BPL households

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BMC Proceedings 2012, 6(Suppl 5):P10

Introduction: Comprehensive Health Insurance Scheme (CHIS) in Kerala is a modification of the national social health insurance scheme called *Rashtriya Swasthya Bima Yojana* (RSBY). We aimed to (a) compare the socio-demographic and health utilization pattern (outpatient and inpatient services) of below poverty line (BPL) households insured under CHIS; (b) find the percentage hospitalization covered by CHIS; and (c) examine the out-of-pocket expenses for inpatient services.

Methods: We conducted a cross-sectional survey of 149 insured and 147 un-insured BPL households, selected through systematic random sampling, in Kerala, India. Multivariate logistic regression, generalized estimating equation and Mann-Whitney U test were the statistical methods used.

Results: Family size more than four (odds ratio (OR) 2.34, 95% confidence interval (CI) 1.13-4.82), chronic diseased family member (OR 2.05, 95% CI 1.18-3.57), high socio-economic status (OR 2.95, 95% CI 1.74-5.03) and an employed household head (OR 2.69, 95% CI 1.44-5.02) were significantly associated with insured households. Both insured and uninsured households had similar utilization of outpatient services, but insured had higher hospitalisations (OR 1.57, 95% CI 1.05-2.34). Only 40% of the hospitalisation among the insured was covered by insurance. The mean out-of-pocket expenses for inpatient services among insured (INR 448.95) was significantly higher than that of the uninsured households (INR 159.93), $p = 0.003$.

Discussion: The major objective of CHIS, protecting poor people from financial catastrophe, was not achieved by the scheme. Even though CHIS has increased the utilization of the health care services, it did not enrol the poorest BPL households. These findings call for an urgent attention of the government to re-design and closely monitor the scheme.

Competing interests: None declared.

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P11

A comparison of data sources and models to project HRH needs in India: lessons from the universal health coverage planning process

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Introduction: The path to universal health care in India requires concurrently addressing several human resource issues and is thus an opportunity to bring about much needed reforms in the health workforce. A key component of these reforms is systemic knowledge generation around what human resources for health (HRH) capacity currently exists in the country and what future needs may be projected to achieve universal health coverage. A lack of uniform sources of data has resulted in the use of diverse sources, which presents its own challenges in the planning process.

Methods: Based on a qualitative comparative framework, we examine the implications of multiple data sources and models to estimate human resource needs for India over the next 30 years.

One set of comparisons projects estimates from census and sample survey data to adjusted figures from professional health councils to actually determine what the population coverage of various HRH cadres is (doctors, nurses and ANMS). Here we compare the data sources, assumptions and methodologies of HRH estimation approaches.

Another set of comparisons is of models that propose to achieve international norms of doctor-population coverage and nurse/midwife to doctor ratios, as compared to models that operate on more general health worker densities incorporating the role and contribution of community health workers and mid-level health practitioners. Here we compare theoretical bases, historical contexts and international evidence that justify various model and assess their relevance to the Indian case.

Results: The use of different data sources results in estimation exercises with varying baselines and ultimately projects widely divergent human resources numbers and requirements. Major reliability and validity concerns may be raised with regard to typical sources of HRH data in India (the Census, the Medical Council of India, Indian Nursing Council, Sample Registration System). This is also related to a lack of interoperability across these sources in terms of definitions and frequency in generation of health information.

Profound epistemological questions regarding India's vision for health emerge in comparing doctor-driven models to community health worker-driven models or models that seek a middle path of mid-level practitioners. India's successes with producing doctors has to be reconciled with the lack of a supportive environment for practice, its world renowned record of community health worker programmes has to be reconciled with the scale of coverage and resultant quality and training implications; finally, operationalizing mid-level practitioners across the country will require overcoming legal and normative barriers that privilege medical dominance and circumscribe what a legitimacy of HRH cadres.

Discussion: Human resources projection exercises and sensitivity analyses raise key questions around the level of clinical competency across cadres, the functional implications of proposed new cadres, the paucity of "live" data, and epistemic considerations related to India's vision for how to (human) resource universal health coverage.

Our recommendations include the use of human resources information management systems as part of management reform. There is an urgent need for systematic data generation related to HRH at appropriate levels in the country, supplemented by routinised cadre review. The country also needs to evolve uniform standards for regulation and accreditation, with appropriate (legal) attention to the scope and integration of practice across cadres at various levels of care. These structural changes require a careful balance between central guidance and strategic planning at the state level in striking that balance, knowledge generation and management around HRH could improve in the country and by extension, enhance HRH planning.

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P12

Evaluation of ASHA programme in Karnataka under the National Rural Health Mission

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Introduction: The Accredited Social Health Activist (ASHA) programme of the National Rural Health Mission (NRHM) is considered as being vital to achieving the goal of increasing community participation with the health system, and is one of the key components of NRHM, India's flagship programme in health launched in 2005. The problem of evaluating ASHA is compounded by multiple and contesting narratives of what constitutes the legitimate role of an ASHA. The discourse on the ASHA's role centres around three typologies: ASHA as an activist, ASHA as a link worker or facilitator, and ASHA as a community level health care provider. Another problem for evaluation is that the ASHA programme is implemented concurrently with a number of other components of the NRHM such as the *Janani Suraksha Yojana* (JSY) and the emergency transport (108) programme and it is impossible to isolate or attribute outcomes as being due to the ASHA programme alone. Methodologically, there is also no baseline status for comparison after the introduction of the ASHA programme in a classical 'before-and-after' study mode. This paper explores the diversity within the ASHA programmes in different districts and overall within Karnataka.

Methods: The sampling design we adopted was a multi-stage sampling design proposed by the National Health Systems Resources Centre (NHSRC) for all states across India in order to enable comparisons. First step was to choose study districts, then *talukas* within districts, then clusters within *talukas* and then villages within clusters. In Karnataka, three districts were selected. The evaluation methodology included interaction with key informants, in-depth interviews at the state level and a combination of in-depth interviews and focus group discussions with key programme officers at the state, district and sub-district level, ASHAs, auxiliary nurse-midwives (ANM) and *Anganwadi* workers (AWW), members of village health and sanitation committees (VHSC) and beneficiaries.

Result: ASHA programme was found to be operational in the villages of these three study districts in Karnataka. The ASHA workers perform tasks mostly as link workers and community health workers and to only a small extent as social activists. Within the domain of their link worker role, through their home visits to the households of community members they have contributed to improvements in the basic antenatal care and also in increasing the number of institutional deliveries and immunisation. We also found that there is inadequate coverage of marginalized households within villages and hamlets in rural and peri-urban Karnataka.

Discussion: Special training of ASHAs should be undertaken since one of the primary objectives of the ASHA programme is to improve social justice. The importance of key equity stratifiers such as age, sex, geography and socioeconomic status for several health outcomes need to be emphasised in both the training modules as well as in routine supervision.

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P13

Health system challenges in delivering maternal health care: evidence from a poor urban neighbourhood in South India

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Introduction: India is committed to achieve the Millennium Development Goals to control maternal mortality (MDG 5). Such commitment is concretised in the launching of the National Rural Health Mission, which aims at improving access to quality health care for poor women and children living in rural areas. Despite evidence on rapid urbanisation and the absence of any health safety net for the urban poor, the proposed National

Urban Health Mission (NUHM) remains in draft form. Drawing on evidence from a poor urban neighbourhood in Karnataka, the paper discusses the health system challenges for delivery quality maternal health care.

Methods: The paper draws on fieldwork conducted in KG Halli, a poor urban slum neighbourhood in Bangalore. The fieldwork is part of a larger urban health action research project (UHARP), carried out in this area since 2009. The project aims at enhancing quality of health care of residents in this area. This paper is based on data collected over a period of two years (2009-2011) through (1) household census (n = 9,299, response rate = 98.5%) using a questionnaire on socio-demographic characteristics, illness profile, health seeking behaviour, and healthcare expenditure; (2) interviews with healthcare providers (n = 16), and (3) observational field notes on issues related to maternal health including mapping of health facilities in the area. Data were analysed from the lens of a health system analysis framework developed by Van Olmen and colleagues [1] to identify larger systemic challenges in delivery of service.

Results: The mapping exercise shows that there are two government facilities and two private clinics providing antenatal care (ANC) and two private hospitals providing ANC and institutional delivery services for a population of over 44,500 in KG Halli. There is poor operational and administrative integration between different levels of care and facilities. A pregnant lady usually gets antenatal check-up at first-level care and delivers at maternity home (secondary level) or in a hospital at tertiary level. Referral to secondary or tertiary facilities is often based on informal understanding of rules among providers regarding registered ANC versus non-registered referred cases; the former determines the legitimacy for treatment in the secondary centre; secondary/tertiary government facilities that cater to most of the institutional deliveries are situated at a distance of around 6 km to 15 km from the area. Despite the distance and 'patient-unfriendly' attitude of the health staff, women deliver in government centres (56% of total institutional deliveries). This is due to both perceived high cost of care in private sector and apprehension that cost and number of caesarean sections performed is high in private sector. Our survey results show that 60% of all caesarean sections were conducted in private hospital, whereas 40% in government hospitals during the study period. Women reported that the cost of a caesarean section in a private facility is five times more than in the government facility. We also found that oversight mechanisms to ensure quality of care in both government and private facilities are poorly implemented as KG Halli lies on the border of two administrative sub-divisions and struggles to find a space between the 'rural' and the 'urban' administration.

Discussion: Analysis of health service delivery in KG Halli from a health systems perspective identifies several constraints resulting in poor quality maternal health care. These systematic constraints need to be redressed at many levels to improve delivery of patient-centred maternal care. Such efforts would go a long way in not merely reducing maternal mortality ratio but also ensuring a robust local health system to deliver quality health care.

Competing interests: All authors except the third author, are part of the team implementing the Urban Health Action Research Project in KG Halli, Bangalore

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P14

Interpreting the Medical Termination of Pregnancy Act by primary care providers in rural Karnataka: implications on safe abortion services

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Introduction: Evidence shows that eight per cent of maternal mortality in India is caused by unsafe abortions. India was one of the pioneer countries to legalize its abortion services as early as 1971. The Medical Termination of Pregnancy Act (MTP) is an enabling regulation, which allows MTP on both medical and social grounds and thus facilitates access to safe abortion services. However, despite this supposedly progressive law, which has existed for more than four decades, 'illegal' and unsafe abortions are still a reality in India particularly in rural areas. There is a large body of research on MTP that examines barriers to access safe abortion services from the users' perspectives. This paper turns the research gaze from the users to the providers particularly at the primary health care level to examine the persistence of illegal and unsafe abortions in rural Karnataka.

Methods: We conducted in-depth interviews with primary care providers that include medical officers in primary health centres and focus group discussions with frontline health workers including Auxiliary Nurse Midwives (ANMs), Lady Health Visitors (LHVs) and Accredited Social Health Activists (ASHAs). We collected data in two districts in Karnataka from July to December 2011. Data were collected as part of a larger research project 'Health System Stewardship and Regulations in Vietnam, India and China' (HESVIC), which looked at how regulations and through it governance, affect equitable access to quality maternal health care.

Results: Results of the study showed that (a) very few of the medical officers were trained in MTP though many of them offered the services; (b) there was a perceived disjunction between clinical and legal training; MTP training was perceived as a mere 'legal cover' and not necessarily equipping providers with additional skills to provide MTP services; (c) in the absence of legal training, providers justify the provision of delivery of service through a range of explanations including "being ethical catering to patients' demands", "we provide abortion services not MTP", "abortions through oral pills are out-patient cases and hence are not reported"; (d) MTP was largely perceived as a 'restrictive regulation' than enabling. Such perception was influenced by several factors like the mandatory legal training, exclusion of non-allopathic primary providers, inadequate dissemination of the regulations including amendments, lack of sensitization training of providers and health workers and providers' own cultural beliefs (those who subscribe to a pro-life approach); and, (e) boundaries between legal and illegal were often drawn at 'married/unmarried' (the latter as illegal), 'less than and more than 12 weeks of pregnancy'. Such boundaries were shaped by a cultural and a skewed reading of the legislation.

Discussion: Apart from indicating towards poor monitoring of a regulation, the analysis shows how the providers' interpretation of the MTP Act and training status results in provision of abortion services that are 'illegal' and potentially unsafe. The findings of the study indicate an urgent need for sensitization training for frontline health workers and paramedical staff on MTP regulation, more accountability from district authorities in facilitating training of primary health care providers and periodic refresher training for the trained doctors to sensitize them on newer technology and also on amendments of the regulation.

Competing interests: None declared.

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P15

'She was referred from one hospital to another': evidence on emergency obstetric care in Karnataka, India

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Introduction: Launching of the the National Rural Health Mission (2005) has brought a sharp policy attention to maternal health with its several initiatives such as (a) cash and material benefits to pregnant women; (b) strengthening health institutions especially of First Referral Units (FRUs); and (c) conducting regular maternal death audits to ensure quality Emergence Obstetric Care (EmOC). In spite of these efforts, the decline in maternal mortality ratio is rather slow and not achieved as per the MDG 5 goal. This study was undertaken to understand why despite infusion of

such vast resources into the health system, timely and quality EmOC services have not been implemented.

Methods: We conducted in-depth interviews with users of EmOC services, semi-structured interviews with key actors of both private and public health system and focus group discussions among field health workers. Data were collected from July to December 2011 in two districts of Karnataka each in north and south Karnataka, as part of a larger multi-country research project 'Health System Stewardship and Regulations in Vietnam, India and China (HESVIC)'.

Users were selected (n = 10) through purposive sampling using outcomes criteria such as bad outcomes (n = 6) [maternal deaths (4), still births (2)] and good outcomes (n = 4) to understand their experiences of EmOC provision. Ethical clearance was obtained and written consent was sought from all respondents. Data was collected according to the saturation principle. Interviews were audio recorded and transcribed verbatim. Thematic analysis was done and at certain stages critical discourse analysis was employed to examine connections across several texts (interviews, grey material etc.) and contexts.

Results: All interviewed users were living below the poverty line belonging to scheduled caste or tribe and had completed primary education, except one user who had a good outcome.

Unpredictable EmOC services: While there is a rise in institutional deliveries, upgraded FRUs have not been able to ensure 24x7 services. Though all interviewed users were registered with auxiliary nurse-midwives (ANM) and were given advice about nutrition and immunisation, they opined that government hospitals can be relied for antenatal visits and for normal deliveries, but they are unpredictable when it comes to provide EmOC services. Users were not sure where and when EmOC cases are managed successfully and when they would be referred out. Below is an excerpt depicting the uncertainty of EmOC provision at government hospitals: "We hesitate to go to Government hospital because of their usual advice to go and get the delivery done elsewhere".

Multiple referrals for averting risk: All bad outcome cases (n = 6) had experienced multiple referrals both in public and private health facilities. There was a time lapse of minimum 10 hours to maximum 32 hours to receive required EmOC services. They were referred to four different hospitals in this time span. The highest health facility most commonly visited was the district hospital. Maternal deaths had taken place in the process of being hopped from one hospital to another even though they had made serious efforts to access EmOC services both in private and public health facilities. Ensuring the availability of blood was seen as the responsibility of the patient's relatives, without which specialists would refer them out.

While lack of resources definitely has been a major reason for referral, a tendency to avoid high risk cases mainly for the fear of facing the maternal death audits and blame that has led to a number of unnecessary referrals. There is tendency of transferring of such blame along the hierarchy. For instance, health workers often claim that no deaths happen in the 'field',

these happen in hospitals, hospital officials would like to say 'deaths often happen in transit not in hospitals'. A specialist explains, "better to refer the patient, than get caught up in unnecessary problems of audit and the humiliation that we experience".

Provision of EmOC service by 'chance' and 'luck': Good outcomes (n = 4) were due to 'good luck' or 'chance' where all the necessary resources were made available at that particular time due to the interventions of caste-based organisations, of rickshaw-driver unions, or of a local practitioner. This uncertainty is because many FRUs do not function or partially function because of lack of availability of specialists. Either sanctioned posts are not filled up or when they are filled, specialists are either on long leave or running private practice. In some instances, specialists are available but their services are mis-utilised for general out-patient department and administrative work, which makes specialist services unavailable round the clock at FRUs. NRHM initiatives like training of MBBS doctors in anaesthesia and caesarean section to redress the specialist shortage has had a limited success due to the perceived lack of confidence and team support.

Other factors such as individual motivations of providers, personal equation with private doctors, ability to negotiate with providers and access to local political support also determined the access to EmOC services.

Discussion: While physical resources like buildings and financial resources have improved under NRHM, human resources particularly of specialists remain a critical bottleneck and prove an obstacle to ensure EmOC care when needed. Training of medical doctors in providing EmOC with more emphasis on practical training may restore their confidence in providing EmOC services, thus address the issue of shortage of specialists at FRUs. Maternal death audits should be conducted in a conducive environment with an aim to strengthen the health system to prevent maternal deaths rather than a faultfinding exercise. The practice of unnecessary referrals calls for a stricter accountability mechanisms not only in public sector but also in private sector. Further, we recommend a robust referral mechanism with stricter adherence to prescribed protocol such as monitoring of partogram. Government should focus on making blood storage units functional. Otherwise women will continue to face limited access to EmOC services.

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